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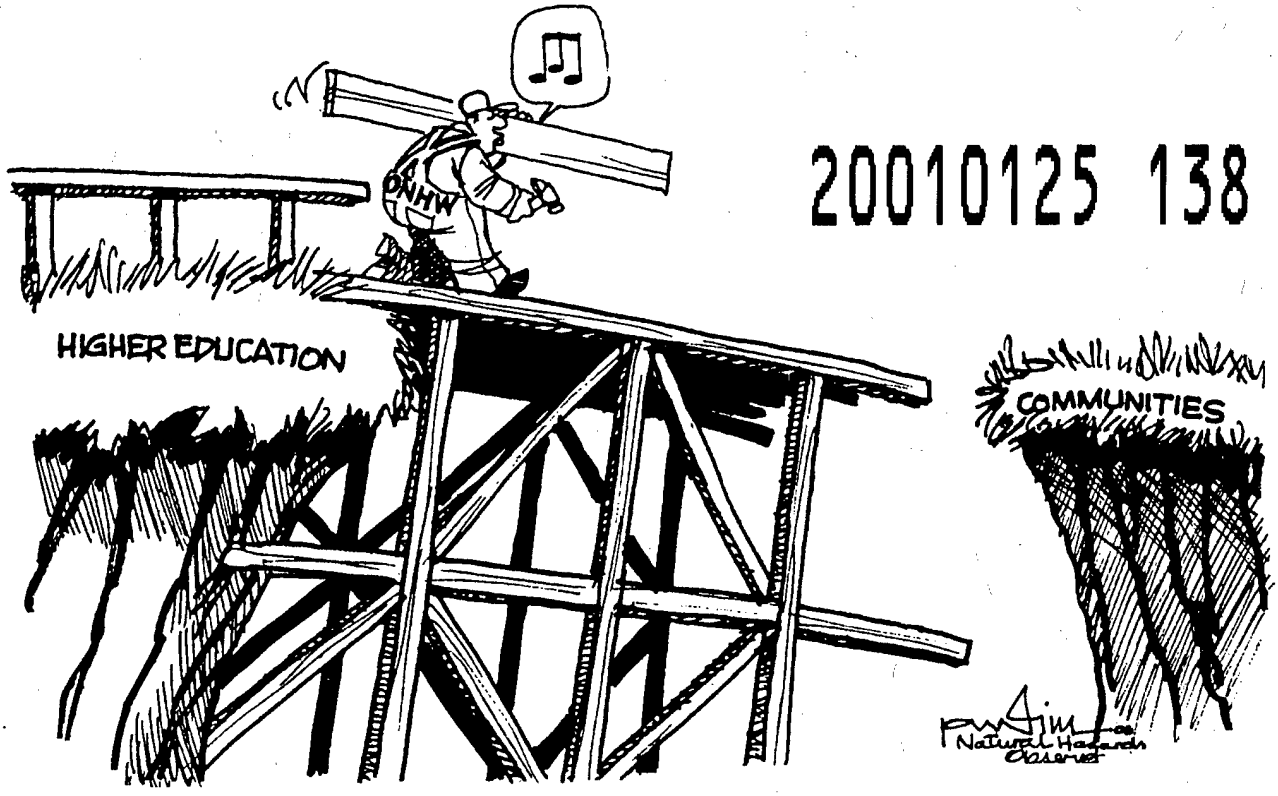


Linking Higher Education and Communities Through Natural Hazard Mitigation

—an invited comment

For the past 25 years, the Community Service Center (CSC) at the University of Oregon has provided planning and technical assistance to help address local and regional issues, improve the quality of life in rural Oregon, and help make the state's communities more self-sufficient while providing the highest quality of graduate-level education and professional training. The Oregon Natural Hazard Workshop (ONHW) is a new program within the CSC that will continue this tradition by conducting two key activities in natural hazards risk and loss reduction: regional and community natural hazard planning; and community outreach through workshops, public education, and information dissemination.

These activities involve public and private stakeholders working to alleviate the risks associated with natural hazards. The planning and community outreach activities, as well as information distribution to local jurisdictions and the public, are coordinated with and complement Oregon's Statewide Land-Use Planning program and the Federal Emergency Management Agency's Project Impact. These efforts share the same goals:

- to help facilitate and coordinate risk reduction and loss prevention efforts within the state; and
- to build community capacity and promote economically, environmentally, and socially sustainable practices for communities addressing hazard loss reduction.

Why the Oregon Natural Hazards Workshop?

In 1998, the Community Planning Workshop (CPW), a program at the CSC, evaluated the status of natural hazard planning in Oregon. This analysis determined that many communities experience difficulties in planning for natural

hazards and undertaking effective development review. In response, CPW, in partnership with other agencies, began to develop tools to strengthen the state's risk reduction efforts. CPW's recommendations included better technical assistance to local governments; increased coordination among agencies, local governments, and other community-based organizations involved in inventorying natural hazards; and the development of effective hazard mitigation policies.

In response to these needs, the CSC established the Oregon Natural Hazards Workshop (ONHW) as a sister program to the CPW. In early 2000, CPW and ONHW partnered with the Department of Land Conservation and Development, other state agencies, and local and county governments to develop ***Planning for Natural Hazards: Oregon Technical Resource Guide***. This guide provides resources that Oregon communities can use to plan for and limit the effects of natural hazards. Development of this guide was an important first step in educating Oregon communities, reducing risk, and preventing loss. However, considerable work remains to make Oregon communities more hazard resistant, and ONHW is poised to take a lead role in assisting communities to reduce their risks and losses from natural hazards.

What Can ONHW Do to Reduce Risk and Loss?

A key to ONHW's success is the development of a collaborative and cooperative environment in which diverse partners can work toward solutions to the hazard-related problems facing Oregon communities. ONHW has established integral partnerships with various private sector businesses, state agencies, nonprofit organizations, and local governments.

Currently, we are working with the Oregon State Police's Office of Emergency Management and local governments to develop natural hazard mitigation plans for communities. Additionally, ONHW is collaborating with the Governor's Interagency Hazard Mitigation Team, the Institute for Business and Home Safety (IBHS), and SAFECO Insurance to coordinate the IBHS Oregon Showcase State Initiative (see the ***Observer***, Vol. XXIII, No. 5, p. 11). ONHW will work with an interagency team and other partners to develop a strategic plan for making the state of Oregon more disaster resistant. This statewide strategic planning will provide Oregon with a more holistic approach to reducing community risk from natural hazards, rather than the typical, incremental approach.

To complement our ongoing programs, ONHW intends to pursue two major outreach initiatives in the next three years:

- **Campus-Based Outreach.** These activities will provide educational and service-learning opportunities to graduate students and are an integral part of ONHW's objectives. Sparking interest and awareness in aspiring planners, policy makers, city administrators, and scientists will greatly serve Oregon communities, the general public, and private-sector organizations. ONHW intends to create opportunities for practical application of risk reduction and loss prevention measures, as well as develop natural-hazards-related curricula and Internet resources.
- **Community-Based Outreach.** Our outreach will provide technical assistance, education, and training in disaster preparedness and planning to communities. This initiative will include the development and implementation of regional hazard workshops for Oregon communities, implementation of IBHS's Showcase State Initiative, creation of a Natural Hazards Network, and awarding of community risk reduction and loss prevention fellowships that provide educational opportunities to graduate-level students and technical assistance to Oregon communities.

Sustainability of ONHW Activities and Services

For ONHW to achieve its mission of providing tools and resources to assist Oregon communities in reducing their risk from natural hazards, the program must ensure that its projects are replicable throughout the state and that they can be sustained with available resources. Thus, through its service areas and projects, ONHW will:

- As discussed above, develop and provide education and training on risk reduction;
- Coordinate the development of a usable, easily accessible resource center and clearinghouse for information relating to natural hazards planning, risk reduction, environmental planning, and sustainability through a Web site, an e-mail discussion list, and an annual newsletter;
- Provide Oregon communities technical assistance with the development of multihazard mitigation plans; and
- Again, stimulate aspiring natural hazard planners and natural resource managers to study, research, and apply natural-hazard-related programs.

These ONHW activities should result in a model program that other organizations within Oregon, throughout the U.S., and around the world can use to develop and improve risk reduction activities within their own communities.

Andre LeDuc
Oregon Natural Hazards Workshop
University of Oregon

For further information about the Oregon Natural Hazards Workshop, contact *Andre LeDuc, Program Director, Oregon Natural Hazards Workshop, 1209 University of Oregon, Eugene OR, 97403-1209; (541) 346-5833; fax: (541) 346-2040; e-mail: crux@darkwing.uoregon.edu; WWW: http://darkwing.uoregon.edu/~onhw.*

To learn more about the Community Service Center and its current projects, contact the *Community Service Center, 1209 University of Oregon, Eugene, OR 97403-1209; (541) 346-3889; fax: (541) 346-2040; e-mail: csco@darkwing.uoregon.edu; WWW: http://darkwing.uoregon.edu/~csco.*

IBHS Unveils New Home Building Program

In October, the Institute of Business and Home Safety (IBHS) unveiled the pilot effort in a new home construction program featuring innovative and affordable construction options to safeguard families against natural disasters. Called "Fortified Florida," the program features new home construction options that offer added protection against that state's three most destructive natural perils: high winds, flooding, and wildfires. Fortified Florida will premier in the Tampa Bay area before being introduced elsewhere in the state as well as across the country as part of a national initiative called "Fortified . . . for Safer Living."

IBHS is a national nonprofit organization supported by the property-casualty insurance industry. The Florida pilot program was developed in partnership with the Contractors and Builders Association of Pinellas County, the Tampa Bay Regional Planning Council, the Federal Emergency Management Agency, and the state of Florida.

With materials contributed by local suppliers, three new homes have been designed and built to meet the new Fortified Florida standards. They incorporate such features as noncombustible, wind-resistant roof materials; shutters and impact-resistant glass; anchored exterior structures, such as carports and porches; reinforced entryways and garage doors; and building site and landscaping techniques that reduce wildfire and flooding vulnerability.

The Fortified Florida designation can only be granted by a qualified service. IBHS engineers will provide this service for the first 100 homes built to the new standards in Florida, and IBHS plans to qualify an outside organization to provide the service afterwards.

IBHS intends to expand the program within Florida and also into a new state early next year. In addition, the institute expects to announce a set of criteria for retrofitting existing Florida homes to the Fortified Florida standards next year and plans to promote public awareness to help create a market demand for these construction techniques.

More information about the Fortified Florida program is available on the World Wide Web at *http://www.fortifiedhome.net*, or by calling *(877) 534-4672*. Interested persons can also contact *IBHS, 1408 North Westshore Boulevard, Suite 208, Tampa, FL 33607; (813) 286-3400; fax: (813) 286-9960: WWW: http://www.ibhs.org*.

Hazards Center Founder Honored

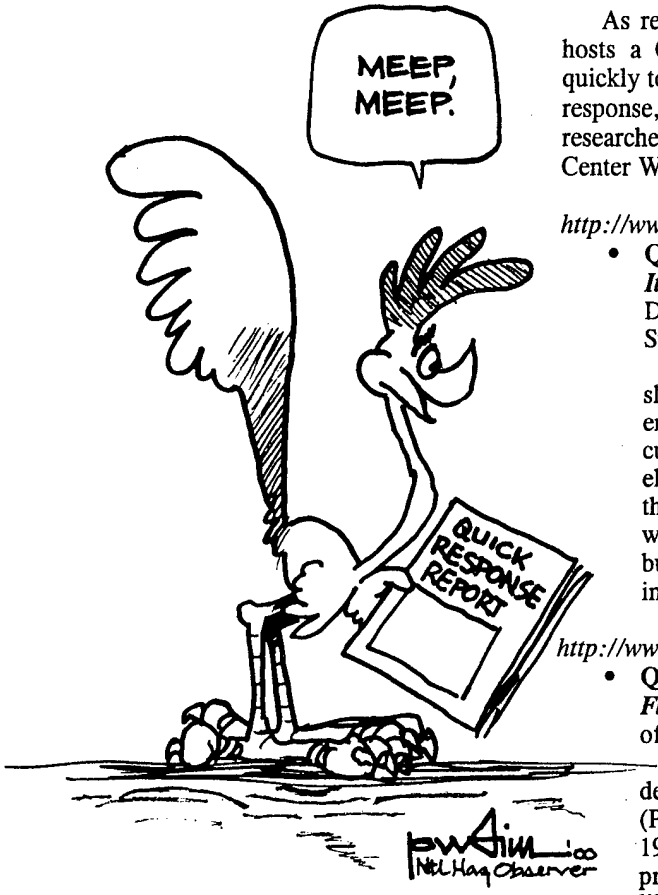
On December 1, President Bill Clinton presented the nation's most prestigious scientific award—the National Medal of Science—to Natural Hazards Center founder and former director Gilbert F. White. White, one of 12 scientists nationwide to receive the award this year, was lauded for his outstanding scientific contributions to geography and environmental science, particularly his pioneering work in shaping national policies regarding floodplain management, water use, natural disasters, and environmental management.

Besides being known as the "father of floodplain management," White has made major contributions to the study of water systems in developing countries, global environmental change, international cooperation, nuclear winter, geography education, and the mitigation of natural hazards, including earthquakes, hurricanes, and drought.

White has been a key player addressing many of the world's more pressing environmental issues over the last 60 years. He contributed to the study of water issues in East Africa, the Aral Sea basin, the Lower Mekong basin, and the Middle East. Beyond that, his work fundamentally changed the way geographers, water resource managers, planners, and society in general think about, relate to, and manage the environment.

When informed of the award several weeks ago, White, the Gustavson Distinguished Professor Emeritus of Geography at the University of Colorado, said, "It's very heartening to see national recognition for this kind of work. But almost all of the work was done by teams of researchers. I'd like to see all of their names listed."

Four New Quick Response Reports
A Workshop Presentation
A Working Paper
A New Web Page
And an Annual Report



Quick Response Reports

As regular readers of the ***Observer*** know, the Natural Hazards Center hosts a Quick Response Research Program enabling scholars to travel quickly to the site of a disaster to gather information on immediate impacts, response, and recovery (see the ***Observer***, Vol. XXV, No. 1, p. 4). These researchers then publish brief summaries of their work via the Hazards Center Web site. Our latest Quick Response reports include:

http://www.colorado.edu/hazards/qr/qr131/qr131.html

- **QR131:** ***The May 1998 Landslides in the Sarno Area in Southern Italy: Rethinking Disaster Theory***, by Rocco Caporale of the Department of Sociology and Institute for Italian-American Studies, St. John's University.

  Caporale examines the sociocultural context of the Italian landslides of 1998 and argues that response and recovery, indeed the entire disaster itself, were determined by the existing "negative culture of disaster"—a concept that he goes on to explore and elucidate. He argues that this cultural outlook "make(s) it inevitable that, like several other previous major disasters in the area . . . there will be no real recovery and reconstruction after the Sarno mudslide, but only an ongoing patch-up leading to further disastrous happenings in the future."

http://www.colorado.edu/hazards/qr/qr132/qr132.html

- **QR132:** ***Effects of Wildfire on Adolescents in Volusia County Florida***, by Audra Langley and Russell T. Jones of the Department of Psychology, Virginia Tech University.

  Langley and Jones use statistical analyses to determine the degree and antecedent correlates of post-traumatic stress disorder (PTSD) among adolescents who experienced the Florida wildfires of 1998. They particularly examine coping efficacy and strategy as predictors for identifying children and adolescents who are most likely to experience PTSD.

http://www.colorado.edu/hazards/qr/qr133/qr133.html

- **QR133:** ***An Evaluation of How ECU Staff Persons Coped With Hurricane Floyd***, by Holly M. Hapke and Ronald Mitchelson of the Department of Geography, East Carolina University.

  Through surveys, Hapke and Mitchelson investigate the impacts of Hurricane Floyd on the staff of East Carolina University (ECU). ECU is in Greenville, North Carolina, on the Tar River, which, like many of the region's waterways, flooded extensively following the hurricane and inundated hundreds of homes. Specifically, Hapke and Mitchelson look at the differential effect of the flood, as well as patterns of predisaster preparedness and postdisaster assistance, with regard to race and socioeconomic status. They also survey the perceived effectiveness of the various agencies providing assistance.

http://www.colorado.edu/hazards/qr/qr134/qr134.html

- **QR134:** ***Citrus Growers Attitudes in North-Central Florida***, by Cesar N. Caviedes of the University of Florida.

  Caviedes examines changes in attitudes and practice among Florida citrus growers since the devastating freezes of the 1980s and in light of forecasts for killing frosts during the winter of 1998-99. He demonstrates how, with advice

from state and federal agencies, practices have been improved to deal with this hazard, but notes that these changes have not yet been put to the test, since a major freeze has not struck the area since 1989.

A complete list of Quick Response Reports is available on-line from *http://www.colorado.edu/hazards/qr/qr.html*. Printed copies can be purchased for $5.00 each, plus shipping charges ($4.00 for surface mail to any destination; $9.00 for international air printed matter). Orders should be directed to the *Publications Administrator, Natural Hazards Research and Applications Information Center, University of Colorado, 482 UCB, Boulder, CO 80309-0482; (303) 492-6819; fax: (303) 492-2151; e-mail: janet.kroeckel@colorado.edu*. Prepayment is required, and checks should be payable to the University of Colorado.

In addition, Quick Response researchers are now invited to present their findings through the Emergency Information Infrastructure Partnership (EIIP) Virtual Forum on the World Wide Web. Interested persons should see *http://www.emforum.org* for a schedule of upcoming EIIP events.

A Workshop Presentation

At the Silver Anniversary Hazards Research and Applications Workshop, held in Boulder, Colorado, in July 2000, a significant portion of the program was dedicated to examining the last 25 years of hazards research and discussing the discipline's future. Some participant remarks are already available from the Hazard Center's Web site; see, for example, Working Paper #104: ***Emergency Management in the 21st Century: Coping with Bill Gates, Osama bin-Laden, and Hurricane Mitch***, by Claire Rubin—*http://www.colorado.edu/hazards/wp/wp104/wp104.html*—as well as the many session summaries available from *http://www.colorado.edu/hazards/ss/ss00.html*.

To further this discussion, the Hazards Center has added another paper to its Web site: ***The Natural Hazards Research Community: Comments on the 25th Anniversary of the Annual Hazards Research and Applications Workshop***, by William A. Anderson, Senior Advisor, Disaster Management Facility, The World Bank. Anderson's remarks, focusing on the history of and prospects for social science disaster research, are available from *http://www.colorado.edu/hazards/ss/ss00/anderson.html*.

A Working Paper

Emergency planning and management increasingly depend on computer-based tools that gather and analyze various kinds of data and provide decision support for prevention, mitigation, response, and recovery. Often, various technologies are combined to create more powerful decision-support tools, but such amalgamation can lead to problems.

Natural Hazards Working Paper #105, ***Challenges in Designing Spatial Decision Support Systems for Evacuation Planning***, by F. Nisha de Silva of the Department of Management Studies, University of Aberdeen, U.K., identifies and analyzes the specific problems faced when two technologies—simulation modeling and geographical information systems (GISs)—were combined to create a prototype decision support tool for evacuation planning called the Configurable Evacuation Management and Planning Simulator (CEMPS). CEMPS was designed to aid planning for and management of evacuation during nuclear facility emergencies. The paper focuses on issues related to the behavioral and decision-making processes of the various players in the evacuation system, logistics, the generation of realistic scenarios for testing contingency plans, the validation of decision support tools, and future trends in technology and emergency planning that decision support system developers should take into account.

Challenges in Designing Spatial Decision Support Systems for Evacuation Planning is available from the Natural Hazards Center Web site at *http://www.colorado.edu/hazards/wp/wp105/wp105.html*. A complete list of on-line Working Papers is available from *http://www.colorado.edu/hazards/wp/wp.html*.

A New Web Page

On another front, the center has also created a new section on its Web site listing other Internet sources that offer job listings in various areas of hazards management. The new page is *http://www.colorado.edu/hazards/sites/jobs.html*.

An Annual Report

Over 15,000 people receive this newsletter, and another 2,400+ receive ***Disaster Research***, the Natural Hazards Center's e-mail periodical. The center's Web site now offers 58 Quick Response reports and 11 Working Papers. If you would like more information about what the Natural Hazards Center has been up to lately, including the titles of all recent publications, see the ***Natural Hazards Research and Applications Information Center 2000 Annual Report***, now on-line at *http://www.colorado.edu/hazards/annrpt/00annrpt.html*.

On the Canadian Natural Hazards Assessment Project

In recent years Canada has experienced a dramatic increase in the costs resulting from natural disasters; examples include the 1996 Saguenay flood, the 1997 Red River flood, and the 1998 ice storm. These trends in Canada reflect global trends of the last two decades that have been a driving force behind many national and international activities, including the International Decade for Natural Disaster Reduction (IDNDR), which ended in 1999, and its successor, the United Nations' International Strategy for Disaster Reduction (ISDR).

Examinations of Canadian disasters suggest that they by no means represent a worst-case scenario and that significant vulnerabilities to natural events exist in Canada that will one day lead to disasters of proportions that will make the ones experienced thus far seem minor. Costs from natural disasters to the public purse, private sector, and individuals are very large and likely to grow larger.

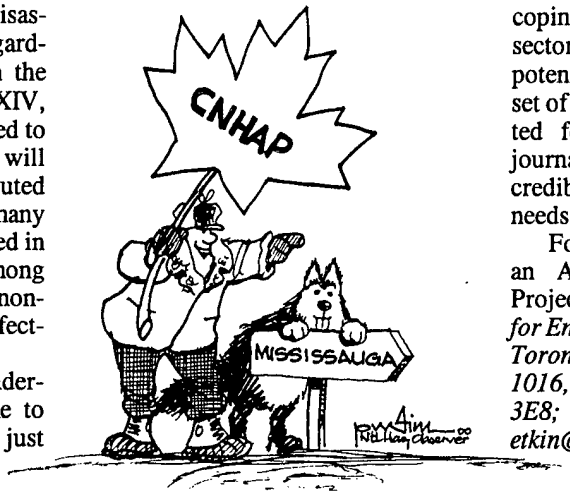
An important part of the process of developing resilient communities and effective policies to reduce the impacts of natural disasters is to take stock of what a city, province, or nation knows and does not know, how information is or is not applied (and why), what the breadth and focus is of existing disaster-related research, and what gaps in knowledge need to be filled in order to achieve these goals.

Recognizing this need, a community of Canadian scientists, scholars, and practitioners in the natural hazards and disasters field have come together to conduct a major new survey of current understanding of the causes and consequences of natural hazards and disasters and to identify critical needs regarding both knowledge and action in the discipline (see the *Observer*, Vol. XXIV, No. 4, p. 19). The project is designed to help determine national policy. It will rely heavily on the freely contributed time of scientists and experts from many disciplines, as well as others involved in disaster policy and management among government, the private sector, nongovernmental organizations, and affected populations.

Similar evaluations have been undertaken in other countries from time to time (for example, the U.S. has just completed their second hazards assessment—see the *Observer*, Vol. XXIII, No. 4. p. 3), and after evaluating these previous efforts, the Canadian group recognizes that the project's focus must be broad and interdisciplinary, involving social and physical scientists, academics and practitioners, policy makers and communities. The study is not intended to be simply an academic exercise, but rather an effort that will provide a guide to all users of natural disaster information and a plan for the future that will reduce the physical and human costs of disasters in Canada.

The Canadian Natural Hazards Assessment Project is guided by a small steering committee, which in early 2000 conducted an initial workshop in Mississauga, Ontario, during which 65 people developed a conceptual model and plan of action for the project. Although the participants came from a wide variety of backgrounds and from most regions of Canada, the organizers feel that the circle of interests must be broadened further.

The plan calls for a two-tiered effort over a period of three years, during which a set of background papers will be developed that will serve as the basis for a publication—***Canadians at Risk: The Vulnerability of Canada to Natural Hazards/Disasters***—aimed at a general audience. Unifying themes of risk and vulnerability will be used to create an integrated set of papers that will provide a critical evaluation, not just a literature review. These papers will include 1) hazard-by-hazard assessments of physical and socioeconomic vulnerability, 2) assessments of adaptive/coping mechanisms, 3) case studies, 4) sectoral studies, and 5) a review of the potential impacts of global change. The set of background papers will be submitted for publication in peer-reviewed journals to give the assessment added credibility and to meet the publishing needs of the contributors.



For more information on the Canadian Assessment of Natural Hazards Project, contact *David Etkin, Institute for Environmental Studies, University of Toronto, 33 Willcocks Street, Suite 1016, Toronto, Ontario, Canada M5S 3E8; (416) 978-6310, e-mail: david.etkin@ec.gc.ca.*

http://www.msc-smc.ec.gc.ca/hazards_assessment/

A Web site has been established for the ongoing Canadian Natural Hazards Assessment Project discussed above. The site will act as a source of current information on the project and will be updated and modified as the project progresses. The designers ask interested persons to examine these Web pages and send any suggestions or comments to *Lianne Bellisario, Adaptation and Impacts Research Group, Meteorological Service of Canada, Environment Canada, c/o Institute for Environmental Studies, University of Toronto, 33 Willcocks Street, Suite 1016V, Toronto, Ontario, Canada M5S 3E8; (416) 978-0309; fax: (416) 978-3884; e-mail: lianne.bellisario@ec.gc.ca.*

Emergency Management Accreditation Program Launched

Recognizing that state and local emergency management programs play a crucial role in creating safe communities and that gauging the capabilities of those programs before a disaster strikes is a major challenge for government and community leaders, more than a dozen national organizations have worked together to develop the Emergency Management Accreditation Program—EMAP. The agencies created EMAP to promote ongoing improvement of state and local emergency management programs by providing national standards that those programs can use to demonstrate success and accountability and to determine areas and issues where resources are needed.

In a world in which new risks emerge regularly, by offering consistent standards and a fair accreditation process, the EMAP developers feel their program will strengthen communities' abilities to prepare for and respond to all types of hazards, from tornadoes and earthquakes to school violence and bioterrorism. Beyond that, the developers also hope to promote communication and planning among the many government and community sectors dealing with disasters. Accreditation is voluntary and not tied to any funding.

In 2001, the new program will be pilot tested in two state emergency management programs. Following those tests, EMAP procedures and materials will be refined and the accreditation process will be offered to all U.S. state and territorial emergency management programs. In 2002, the accreditation process will be tested among local emergency management programs.

The EMAP process will include an application, self-assessment, on-site assessment by an outside review team, and EMAP committee and commission review of compliance with program standards; it will also require re-accreditation every three years.

EMAP currently operates under the auspices of and with staff support from the National Emergency Management Association (NEMA). Collaboration with interested organizations and individuals as well as use of existing assessment and standards materials have helped minimize initial costs, and the developers intend for the program to become self-supporting through application and re-accreditation fees. In the near future, the current EMAP steering committee will be superseded by a nine-member commission with broad representation that will be incorporated as an independent entity.

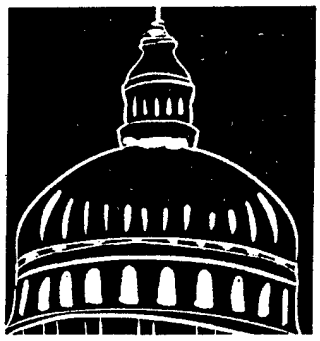
For more information about EMAP, contact *Emily DeMers, Accreditation Coordinator, NEMA, c/o Council of State Governments, P.O. Box 11910, Lexington, KY 40578-1910; (859) 244-8210; fax: (859) 244-8239; e-mail: edemers@csg.org; WWW: http://www.nemaweb.org.*

The agencies responsible for EMAP include the National Emergency Management Association, International Association of Emergency Managers, Federal Emergency Management Agency, U.S. Department of Transportation, Association of State Floodplain Managers, Institute for Business and Home Safety, International Association of Fire Chiefs, National Association of Development Organizations, National Conference of State Legislatures, National Governors Association, National League of Cities, National Association of Counties, and U.S. Environmental Protection Agency.

CUREe Becomes CUREE
Expands Membership

The membership of California Universities for Research in Earthquake Engineering (CUREe) has voted to allow universities across the country to apply for membership. The name of the reorganized nonprofit corporation is now the Consortium of Universities for Research in Earthquake Engineering (CUREE). CUREE retains its prime purpose: developing and using the capabilities of faculty and other resources at engineering schools of research universities and applying those resources to the understanding of earthquake engineering and hazard risk reduction. University and individual faculty applications for CUREE membership are now being actively solicited. For more information, see *http://www.curee.org/.*

[Adapted from the Southern California Earthquake Center (SCEC) INSTANeT news service: *scecinstanet-l@usc.edu.*]



WASHINGTON UPDATE

Many of the following articles describe appropriations bills recently passed by Congress and signed into law by President Clinton. The complete text of each bill can be obtained from any *federal repository library* or from the *Library of Congress Web site: http://thomas.loc.gov.*

Congress Passes Disaster Mitigation Act of 2000

On October 10, in an effort to reduce the growing demand for federal disaster assistance, Congress passed the Disaster Mitigation Act of 2000. Based on the Federal Emergency Management Agency (FEMA) initiative Project Impact, Public Law 106-390 emphasizes local community involvement in implementing long-term strategies to increase disaster resistance. This is the first major change to the Robert T. Stafford Disaster Relief and Emergency Assistance Act since that law was passed in 1988.

In passing the legislation, Congress recognized that a greater emphasis needs to be placed on identifying and assessing risks from natural disasters, implementing adequate measures to reduce losses, and ensuring that critical services and facilities will continue to function after a natural disaster. The bill creates a National Predisaster Mitigation Fund and authorizes funding for the next three years (see the following article for funding details).

Mitigation Assistance Awards

The Disaster Mitigation Act grants the president authority to provide technical and financial assistance to states and local governments that have identified local risks and have formed effective public-private partnerships. Each state is to recommend to the president up to five local governments to receive funding. Assistance awards are to be based on the extent and nature of hazards to be mitigated, the degree of commitment by the state or local government to reduce damage from future disasters, ongoing commitment by states and local governments for hazard mitigation, the compatibility of hazard mitigation efforts with state goals and priorities, and other criteria. Up to 10% of funds may be used for disseminating information about cost-effective mitigation techniques. The federal government may provide up to 75% of financial assistance for mitigation activities in most communities, and up to 90% of costs in small, impoverished communities. The legislation also requires the creation of "Multihazard Advisory Maps" in no less than five states that are subject to recurring hazards, such as floods, hurricanes, and earthquakes.

Disaster Assistance

The act repeals the Individual and Family Grant Program under the original Stafford Act and replaces it with a new section specifying federal assistance to individuals and households. Recipients can obtain housing assistance based on the fair market rent in the affected region and related expenses, up to $10,000 for the replacement of an owner-occupied private residence destroyed by a disaster, a "readily fabricated dwelling" if that option is more economical or accessible, and up to $25,000 for replacing personal property and covering other disaster-related costs.

The act establishes new requirements for obtaining assistance to repair, restore, reconstruct, or replace damaged facilities, including a requirement that private nonprofit organizations that do not provide critical services must apply for Small Business Administration disaster loans before they can receive disaster assistance from FEMA. It also reduces the amount of federal assistance that will be provided to eligible public or private facilities that have been damaged more than once in the past 10 years and have failed to mitigate the hazard.

Communities that suffer a substantial loss of tax and other revenues as a result of a major disaster and have demonstrated a need for financial assistance in order to perform governmental functions may still receive disaster loans of up to $5 million.

The Hazard Mitigation Grant Program (HMGP) remains and still allows up to 15% of total disaster assistance funds to be used for a specific hazard mitigation measure. However, a state, local, or tribal government may be eligible for up to 20% federal funding if the state has an established

mitigation plan in place at the time of a presidentially declared disaster. FEMA should consider, in determining if a state qualifies for additional HMGP funding, whether a community has also identified a way to evaluate the effectiveness of mitigation actions after they are complete. Congress also requires FEMA to notify House and Senate authorizing and appropriations committees before providing assistance greater than $20 million.

The act further authorizes the president to provide grants, equipment, supplies, and personnel to any state or local government for the mitigation, management, and control of "any fire on public or private forest land or grassland that threatens such destruction as would constitute a major disaster." This section will take effect in one year, after the president prescribes necessary regulations for its implementation.

Agency Administration

The legislation also requires the president to establish an interagency task force, chaired by the FEMA director, for coordinating the implementation of predisaster hazard mitigation programs. The task force must include representatives from federal agencies; state, local, and tribal governments; and the American Red Cross. The president may require safe land-use and construction practices as a condition of funding.

Another section outlines steps for reducing administrative costs and requires FEMA to "provide for public notice and opportunity for comment" before the agency adopts or changes policies that address public assistance programs or that may result in a significant reduction in assistance. The legislation also delegates to qualified states the authority to administer the Hazard Mitigation Grant Program.

Finally, Congress also requires FEMA to conduct a study of participation by Indian tribes in emergency management, including training, predisaster and postdisaster mitigation, disaster preparedness, and disaster recovery at federal and state levels. The study is to assess the capacity of tribes "to participate in [and administer] cost-shared emergency management programs."

Additional information is available from the *FEMA Office of Public Affairs, 500 C Street, S.W., Washington, DC 20472; (202) 646-4600; fax: (202) 646-4086; e-mail: eipa@fema.gov; WWW: http://www.fema.gov.*

FEMA Funded for Another Year

More than two weeks after the Disaster Mitigation Act was passed, Congress provided money to fund it and keep FEMA operating. Public Law 106-377 provides $300 million "for the necessary expenses in carrying out the Robert T. Stafford Disaster Relief and Emergency Assistance Act" and earmarks $2.9 million for the consolidated emergency management performance grant program, $15 million for modernizing flood maps in areas receiving presidential disaster declarations, and $3 million for a hurricane mitigation initiative (including new voting machines) [just kidding] in Miami-Dade County, Florida. An additional $1.3 billion was provided for disaster relief, and $1.7 million for the Disaster Assistance Direct Loan Program Account to support direct emergency loans of up to $25 million made to states that are suffering financial hardship.

The Office of the Inspector General, whose reports have frequently been mentioned in these pages (see the ***Observer***, Vol. XXV, No. 2, p. 9; Vol. XXIV, No. 6, p. 9), received $10 million. Congress also provided $270 million for emergency management and planning assistance, including $25 million for predisaster mitigation activities (see previous article). The Emergency Food and Shelter Program received $140 million. The National Flood Insurance Fund was given $26 million for salaries and expenses associated with flood mitigation and flood insurance operations and $77 million for flood mitigation activities. Congress directed FEMA to provide the New York Department of Environmental Conservation $2 million to create the Statewide Flood Plain Mapping Program. The transfer of $20 million from the National Flood Insurance Fund to the National Flood Mitigation Fund was approved, as was up to $17.73 million in fees collected under the NFIP to be used by the Flood Map Modernization Fund.

Congress Funds Other Agencies, Too

The same legislation that funded FEMA (see previous page) consolidated two appropriations bills:

- H.R. 5482, which legislates the 2001 funding for the departments of Veterans Affairs and Housing and Urban Development and for independent agencies; and
- H.R. 5483, the Energy and Water Development Appropriations bill.

It provides the U.S. Army Corps of Engineers with $160 million for the "collection and study of basic information pertaining to river and harbor, flood control, shore protection, and related projects"; $1.7 billion for the construction of such projects; and $347 million for flood control and "rescue work, repair, restoration, or maintenance of flood control projects threatened or destroyed by flood."

The Department of Energy received $203 million to remediate damaged facilities and for other expenses associated with the Cerro Grande fire in New Mexico last May, including $2 million owed the U.S. Army Corps of Engineers for initiating erosion control measures. The Bureau of Reclamation, part of the Department of the Interior, received $5 million for its Drought Emergency Assistance Program to "address the severe drought conditions that currently exist in New Mexico and other western states."

Departments Get Wildfire and Other Funding

Public Law 106-291, the Department of the Interior appropriations legislation, also financed efforts to deal with hazards.

- The Bureau of Land Management received $425 million in one appropriation and $200 million in another section for fire preparedness, suppression, research, emergency rehabilitation, and hazardous fuels reduction, with $30 million earmarked for the renovation or construction of fire facilities.
- The U.S. Geological Survey received $6 million from the Oil Spill Liability Trust Fund to conduct research on oil spills.

In the Department of Agriculture:

- The U.S. Forest Service received nearly $13 million for emergency pest management and forest health activities.
- Under funding designated for the National Forest System, the department was provided $839 million for wildland fire management and suppression on National Forest System lands and other adjacent lands, as well as emergency rehabilitation of burned-over lands and water; and $8.6 million for fire science research. An additional $426 million was provided to the U.S. Forest Service for similar activities (see the article below).
- The National Forest System also received $7.2 million for emergency expenses resulting from forest damage due to windstorms.

Governors' Recommendations for Dealing with Wildfires Signed into Law

A proposal by the governors of western states to change federal policies addressing wildfires and long-term forest ecosystem health was signed into law by President Clinton on October 11, 2000, as part of a funding bill for the U.S. Department of the Interior and the U.S. Department of Agriculture (see article above). In September, members of the Western Governors' Association (WGA) met with the Secretaries of Agriculture and Interior in the wake of the catastrophic wildfires that burned throughout much of the west. Members of the House and Senate conference committee working on the appropriations bill agreed to include language in the bill concerning the agreement reached between the governors and secretaries.

The conference committee's report directs the "Secretaries to engage Governors in a collaborative structure to cooperatively develop a coordinated, National ten-year comprehensive strategy with the States as full partners in the planning, decision making, and implementation of the plan." It also stresses that "key decisions should be made at local levels." The Department of the Interior and Related Agencies Appropriations Act 2001, Public Law No. 106-291, provides nearly $2 billion to the Department of the Interior for wildfire risk reduction and rehabilitation. It requires the Secretary of Agriculture and the Secretary of Interior to jointly publish in the ***Federal Register*** a list of all communities that are at high risk from wildfire and are within the vicinity of federal lands. It also provides some reimbursement for states that committed substantial resources to fighting wild fires during the summer of 2000.

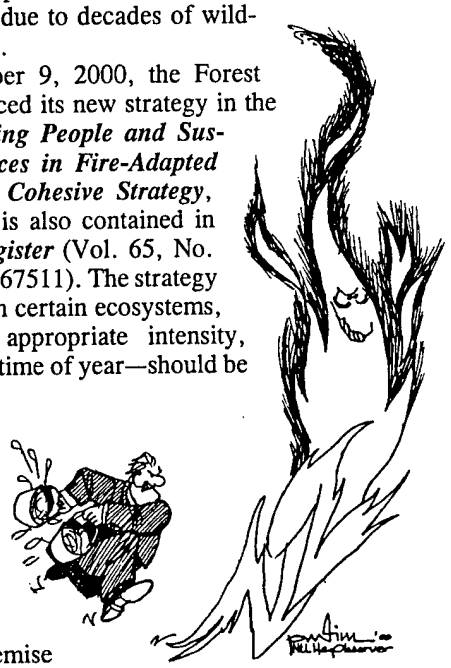
Additionally, the act gives $16 million to the Bureau of Land Management for restoration needs caused by wildland fires; $8.5 million to the U.S. Fish and Wildlife Service to repair or replace visitor facilities, equipment, roads and

trails, and cultural sites and artifacts at national parks damaged by natural disasters; and $2.7 to the U.S. Geological Survey to repair or replace stream monitoring equipment and associated facilities damaged by natural disasters. In December, to further support these efforts, the governors approved ***Policy Resolution 00-041: Improving Forest Ecosystem Health on Federal Lands: Next Steps.***

The governors' policy resolutions regarding wildland fire can be obtained from the *WGA, 1515 Cleveland Place, Suite 200, Denver, CO 80202-5114; (303) 623-9378; fax: (303) 534-7309; WWW: http://www.westgov.org.*

Federal Agencies Also Recommend New Approach To Wildfires

Following the difficult 2000 wildfire season, during which more than 6.8 million acres of public and private lands burned, Congress and the president directed the U.S. Forest Service to prepare a strategic plan for reducing wildland fire risk and restoring ecosystem health in the West (see previous article). The 2000 fire season was aggravated by a severe drought and a series of storms that produced thousands of lightning strikes and windy conditions, as well as by the buildup of brush, small trees, and other fuels due to decades of wildfire suppression.



On November 9, 2000, the Forest Service announced its new strategy in the report ***Protecting People and Sustaining Resources in Fire-Adapted Ecosystems—A Cohesive Strategy***, most of which is also contained in the ***Federal Register*** (Vol. 65, No. 218, pp. 67480-67511). The strategy maintains that in certain ecosystems, some fire—at appropriate intensity, frequency, and time of year—should be used as part of a forest management strategy to protect and sustain watersheds, species, and other natural resources, the premise being that fire-maintained forests and grasslands are inherently safer for firefighters and the public than eco-systems in which fire has been excluded. The report provides recommendations regarding improving firefighter readiness, educating the public, rehabilitating watersheds, reducing hazardous fuels, restoring ecological systems, collaborating with other levels of government and the public, monitoring effectiveness, transferring research and technology, and managing the impacts of wildfires on communities and the environment. It reflects the earlier findings of the U.S. General Accounting Office report, ***Western National Forests: A Cohesive Strategy is Needed to Address Catastrophic Wildland Fire Threats*** (see the ***Observer***, Vol. XXIV, No. 2, p. 11).

Copies of ***Protecting People and Sustaining Resources*** are available from the *Director, Fire and Aviation Management Staff, Second Floor, S.W., Sidney R. Yates Federal Building, Mail Stop 1107, U.S. Forest Service, P.O. Box 96090, Washington, DC 20090-6090; WWW: http://www.fs.fed.us.* The companion report, ***Managing the Impact of Wildfires on Communities and the Environment: A Report to the President in Response to the Wildfires of 2000***, can be found on the White House Web site: *http://www.whitehouse.gov/CEQ/firereport.html.*

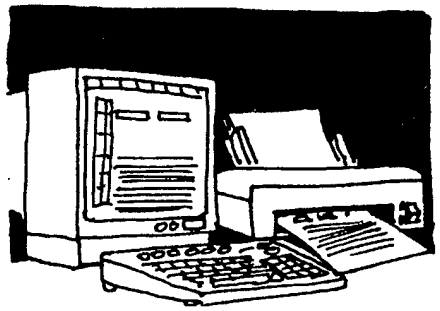
Another report containing the testimony of a GAO official before the Task Force on Resources and the Environment, Committee on the Budget, U.S. House of Representatives, outlines that agency's recommendations for reducing losses due to wildland fires. ***Reducing Wildfire Threats: Funds Should Be Targeted to the Highest Risk Areas*** (GAO/T-RCED-00-296, 2000, 8 pp., free) recommends implementation of a comprehensive management strategy of suppressing wildfires after they start, rehabilitating forests and rangelands after they have burned, and reducing the risks of future fires by removing accumulated hazardous fuels. It also outlines why unchecked wildfires pose a serious risk to nearby communities and the sustainability of natural resources and ecosystems, reviews the history and status of efforts by the Forest Service and the Department of the Interior to reduce risks, and identifies budget-related issues that should be addressed to ensure agencies spend wisely to reduce hazardous fuels.

FEMA Issues Final Rule on NFIP Coverage

On October 12, 2000, FEMA announced changes to the insurance coverage and rates in its National Flood Insurance Program (NFIP). Primarily, the agency has changed the wording of its Standard Flood Insurance Policy to make it more understandable and restructured the policy to resemble a homeowners' policy.

The final rule, which can be found in the ***Federal Register*** (Vol. 65, No. 198, pp. 60758-60794), more clearly defines what constitutes a building as opposed to a structure. Among the many other changes, the NFIP will now cover sewer back-up if there is a general condition of flooding in the area, will pay $1,000 each for labor and materials for mitigation activities such as sandbagging and removing personal property from a home, and will allow renters to apply 10% of contents coverage to major appliances. Payments for lost collectibles and art have also been increased to $2,500. The rule outlines the specific coverages and rates offered for all options under the NFIP.

Copies of the final rule can be found at *any federal repository library* or on-line at *http://www.access.gpo.gov.* More information about the NFIP can be found on-line at *http://www.fema.gov/nfip* or can be obtained from the *FEMA Office of Public Affairs, 500 C Street, S.W., Washington, DC 20472; (202) 646-4600; fax: (202) 646-4086; e-mail: eipa@fema.gov.*



INTERNET PAGES

Below are some recent disaster Internet resources the Hazards Center staff has encountered. For a more complete list of some of the better sites dealing with hazards and disasters, see *http://www.colorado.edu/hazards/sites/sites.html.*

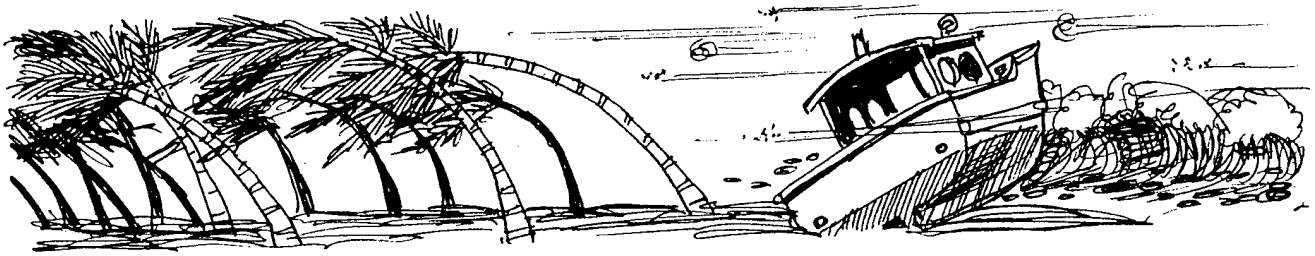
All Hazards

http://www.redcross.org/disaster/safety/index.html
http://www.redcross.org/disaster/safety/cde.html

The disaster section of the American Red Cross Web site provides extensive individual, family, and business preparedness and recovery information. The site includes a new, continually updated listing at the second URL above of all available Red Cross Community Disaster Education (CDE) resources. Categories of CDE materials include: media, general disaster preparedness, teachers and schools, videos, presenters materials, materials for children, and materials in Spanish and other languages.

http://disaster.ifas.ufl.edu

The Cooperative Extension Service of the Institute of Food and Agricultural Sciences, University of Florida, has published an on-line version of its ***Disaster Handbook***. The handbook's chapters include "Disaster Preparedness," "During the Disaster," "After the Disaster," "Home Recovery," "Farm Recovery," "Hurricanes," "Lightning," "Floods," "Tornadoes," "Hazardous Materials," "Radiological Accidents," "Residential/Farm Fires," "Wildland Fires," "Terrorism," "Extreme Heat and Drought," "Extreme Cold and Winter Storms," "Earthquakes," "Radio Spots," and "Stress and Coping." The site also offers a list of resources and numerous links to other useful Web sites.



http://www.iso.com/
http://www.iso.com/docs/news.htm
http://www.iso.com/docs/studies.htm

Each quarter, via their news service at the second URL above, the Property Claim Services (PCS) Unit of Insurance Services Office, Inc. (ISO) releases estimates of anticipated national insured catastrophe losses for the entire insurance industry. ISO defines a catastrophe as an event that causes $25 million or more in insured property losses and affects a significant number of property/casualty policyholders and insurers.

In addition, each year, ISO presents three to five timely studies on important issues facing the insurance industry and society as a whole. The "Studies" section of the ISO Web site includes detailed summaries of the most recent papers as well as information about how to purchase the complete report for a nominal fee. Available summaries include:

- ***A Half Century of Hurricane Experience***
- ***Financing Catastrophe Risk: Capital Market Solutions***
- ***The Wildland/Urban Fire Hazard***
- ***Managing Catastrophe Risk***
- ***Catastrophes: Insurance Issues Surrounding the Northridge Earthquake and Other Natural Disasters***
- ***The Impact of Catastrophes on Property Insurance***

http://library.thinkquest.org/C003603/

This "Forces of Nature" site, put together by an international group of high school students as a contest entry, provides a detailed introduction to avalanches, droughts, earthquakes, flooding, fog and mist, forest fires, hurricanes, landslides, monsoons, severe storms, tornadoes, tsunamis, volcanoes, and windstorms. The information covers descriptions of the phenomena, their impacts, recent occurrences, historical case studies, and interviews, as well as guidelines and tips for prediction, preparation, and prevention. There are also simulations, classroom activities and experiments, resource tools, teacher aids, interactive topic exploration programs, multimedia galleries, games, and quizzes intended to "teach appreciation and understanding of the natural world, with emphasis on avoiding the consequences of Earth's evolution and revolution."

http://www.udel.edu/DRC

The Disaster Research Center (DRC) at the University of Delaware has announced that effective immediately DRC publications not copyrighted by others will be available for free downloading from its World Wide Web site. This includes all new publications and DRC publications released since 1985; the center will attempt to put all earlier publications on-line during 2001. Persons without Internet access will still be able to purchase paper copies by mail. Anyone with questions about this new policy should contact *Susan Castelli, Library Coordinator, Disaster Research Center, University of Delaware, Newark, DE 19716; (302) 831-6618; fax: (302) 831-2091; e-mail: castelli@udel.edu.*

http://www.paho.org/disasters/
http://165.158.1.110/english/ped/pedhome.htm
(in either case, click on "Newsletter")

We'd like to remind ***Observer*** readers that one of the better newsletters on disaster management is available free on the World Wide Web, and specifically note that the latest issue of ***Disasters: Preparedness and Mitigation in the Americas***, published by the Emergency Preparedness and Disaster Relief Coordination Program of the Pan American Health Organization (PAHO), includes a four-page supplement describing 18 of PAHO's newest publications on disasters, disaster management, and disaster health. All of these documents are offered for sale but are also provided free via the PAHO Web site. Included are such publications as:

- ***Principles of Disaster Mitigation in Health Facilities*** (2000, 130 pp., $22.00)
- ***Hurricanes Georges and Mitch*** (1999, 400 pp., $20.00)
- ***Natural Disasters: Protecting the Public's Health*** (2000, 131 pp., $22.00 in the U.S./$18.00 in Latin America and the Caribbean)
- ***Humanitarian Assistance in Disaster Situations: A Guide to Effective Aid*** (1999, 20 pp., $6.00)
- ***The Consequences of Disasters on Public Health*** (2000, 461 pp., $25.00 [Spanish only])
- ***Virtual Disaster Library*** (1999, CD-ROM, $40.00)

Many other useful books in both English and Spanish are available. See the on-line newsletter for ordering or downloading information, or contact *PAHO, Emergency Preparedness and Disaster Relief Coordination Program, 525 Twenty-third Street, N.W., Washington, DC 20037; (202) 974-3527; fax: (202) 775-4578; e-mail: disaster-publications@paho.org.*

http://www.nnic.noaa.gov/CENR/cenr.html
http://www.fema.gov/nwz00/effectivedoc.htm

In November 2000, the Working Group on Natural Disaster Information Systems, Subcommittee on Natural Disaster Reduction, Committee on Environment and Natural Resources of the National Science and Technology Council released a 56-page report on ***Effective Disaster Warnings***. The report "compiles . . . a wealth of information on public and private sector R&D capability to provide early warning of natural or technological hazards. . . . It is designed to assist scientists, engineers, and emergency managers in developing more accurate . . . warnings . . . The goal of this Report is to provide a broad overview of major issues related to warning the right people at the right time." The report focuses on emerging opportunities in technology that can focus warnings on particular populations and thus improve public safety. It notes that a major priority is to address concerns regarding data/information standards and dissemination systems to be used, and recommends close collaboration among federal, state, local, and private-sector organizations.

http://www.itu.int/ITU-D-StGrps/SGP_1998-2002/SG2/Documents/DocList.htm

The ***Disaster Communications Handbook***, a publication of the International Telecommunication Union, is now available in English, Spanish, and French from this Web site.

http://www.disasterlinks.net

This site is just what its name implies: dozens of links to disaster Web sites arranged in approximately 30 categories—from "Satellite Images" to "Icebergs"—brought to you by CBS News.

http://www.eclacpos.org/sustdev/CARLINKS/dislink.htm

If you're just looking for links to disaster information about the Caribbean, try this recently revised site prepared by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC).

http://www.ema.gov.au

Emergency Management Australia has spiced up its Web site with a new look and new information. The site includes a section describing the agency's programs and structure as well as pages covering current EMA activities, EMA media releases, and emergency management generally. It provides a virtual library, community information, a summary of available education and training, and a list of conferences. The site also incorporates an extensive new section on "Disaster Education for Schools," with pages for teachers, students, and school communities, as well as a news section and an index of school disaster education resources—from Web sites to books and videos.

Cal-EPI-request@incident.com

Interested persons are invited to join a new mailing list for discussion of Emergency Public Information (EPI) tasks, tools, and techniques in California and beyond. The "Cal-EPI" list is not only a new forum for discussion of technology issues, it is also a community in which emergency managers, journalists, and others with shared interests can discuss the larger challenges of alerting, informing, and reassuring the public during emergencies. Anyone can join this conversation by sending e-mail to *Cal-EPI-request@incident.com* with the word "subscribe" in the body of their message.

http://www.animaldisasters.com

The purpose of the Animal Management in Disasters Web site is to provide "a resource to professional emergency managers and animal care providers who have an interest in improving the care of animals and their owners in disasters" and to provide "an opportunity for [users] to contribute to the development of training material to help the livestock industry mitigate the impact of disasters." Material relevant to the first goal is provided on the information and publications pages; material relevant to the second is provided through the meetings, discussion, and discussion summary pages. The newly revised site not only offers information about animal management in disasters for pet owners, livestock owners, and farmers, it also provides business continuity information for veterinarians and humane shelter managers.

Floods

http://www.fema.gov/nfip/manual.htm

In May and October of each year, the Federal Insurance Administration, the Federal Emergency Management Agency division in charge of the National Flood Insurance Program (NFIP), publishes changes to NFIP policies and procedures in an updated ***NFIP Flood Insurance Manual***. Subscriptions to the manual are available from the *FEMA Map Service Center, P.O. Box 1038, Jessup, MD 20794-1038; (800) 358-9616*. The complete manual is also available on-line at the Web site above.

Volcanoes

http://volcanoes.usgs.gov
http://volcanoes.usgs.gov/educators.html

The U.S. Geological Survey's Volcano Hazards Program Web site consolidates much of the information on volcanoes

available from the Survey. The "Educator's Page," which we haven't mentioned before, includes seven complete on-line texts:

- ***Volcanoes***
- ***This Dynamic Earth***
- ***Monitoring Active Volcanoes***
- ***Volcanoes of the United States***
- ***Mount St. Helens: Past, Present, and Future***
- ***Eruptions of Hawaiian Volcanoes: Past, Present and Future***
- ***Fire and Mud (Mount Pinatubo, Philippines)***

It also provides a catalog of other books and media on volcanoes that can be purchased from the Survey.

Drought, Desertification, and Climate Change

http://www.undp.org/seed/unso/news.htm
webmaster.unso@undp.org

The United Nations Development Program (UNDP) Office to Combat Desertification and Drought (UNSO) administers a weekly news service that distributes links to articles related to drought and desertification. To see what sort of information is provided, view the UNSO Web page: *http://www.undp.org/seed/unso/news.htm*. To subscribe to the service, send an e-mail message to *webmaster.unso@undp.org* with "subscribe to news updates" in the subject line.

http://www.pacinst.org/ccresource.html

The Pacific Institute for Studies in Development, Environment and Security has developed a new resource to aid researchers and students dealing with climate change. "A Selective List of Climate Change Resources on the Internet" is updated weekly and currently contains over 150 links to climate change science and policy information on the Internet.

Disaster Medicine and Mental Health

http://www.mentalhealth.org/cmhs/EmergencyServices/index.htm

The Emergency Services and Disaster Relief Branch (ESDRB) of the Center for Mental Health Services (CMHS) (part of the U.S. Department of Health and Human Services), in partnership with the Federal Emergency Management Agency, administers the Crisis Counseling Assistance and Training Program, which oversees national efforts to provide emergency mental health services to survivors of presidentially declared disasters. The branch's activities are divided into three areas: services to individuals and communities affected by disasters, services to state and local mental health administrators, and services to other groups.

The ESDRB Web site provides information about each of these areas as well as numerous documents and manuals on the provision of mental health services following disaster, including:

- ***Field Manual for Mental Health and Human Service Workers in Major Disasters***
- ***Psychosocial Issues for Children and Families in Disasters: A Guide for the Primary Care Physician***
- ***Psychosocial Issues for Older Adults in Disasters***
- ***Psychosocial Issues for Children and Adolescents in Disasters***
- ***Responding to the Needs of People with Serious and Persistent Mental Illness in Times of Major Disasters***
- ***Disaster Mental Health: Crisis Counseling Programs for the Rural Community***

The site also includes ***Best Practices***—a document describing exemplary disaster crisis counseling programs across the country—and lists several videos, fact sheets, and pamphlets that can be ordered on-line.

Earthquakes

http://www.geohaz.org/radius.html

One of the major initiatives of the recently completed United Nations International Decade for Natural Disaster Reduction (IDNDR) addressed the issue of reducing seismic risk in large cities of the developing world. Although officially completed over a year ago, the RADIUS (Risk Assessment Tools for Diagnosis of Urban Areas Against Seismic Disaster) Project continues to produce useful tools and information. Indeed, in the last two months, the project has released a ***Summary Report*** and CD-ROM. The report reviews all projects carried out under RADIUS. The CD-ROM contains the project description, reports from the collaborating institutes and case-study cities, guidelines for RADIUS-type projects, several additional documents and reports, as well as the project's "tool for earthquake damage estimation."

These materials are being distributed to the various cities, organizations, and individuals involved in the RADIUS project; however, all the information is currently being uploaded to the World Wide Web at the address above for anyone to download and use.

Persons interested in the Radius project, or earthquake hazards mitigation generally, should note that an *International Workshop on an Earthquake Safer World in the 21st Century: Emphasis on Self-Help, Cooperation, and Education Through*

Community Involvement, organized by the United Nations Centre for Regional Development (UNCRD) Disaster Management Planning Office, will be held in Kobe, Japan, January 29-31, 2001. The meeting will focus on case studies, findings, and tools resulting from the RADIUS Project. For more information, contact *Rajib Shaw, UNCRD, Disaster Management Planning Hyogo Office, IHD Center Building, Third Floor, 1-5-1 Wakinohama-Kaigan-Dori, Chuo-ku, Kobe 651-0073, Japan; tel: +81-78-230-7561; fax: +81-78-230-7751; e-mail: shaw@hyogo.uncrd.or.jp.*

http://neic.usgs.gov/
http://neic.usgs.gov/products_and_services.html
http://neic.usgs.gov/neis/pANDs/neic_maps.html

The National Earthquake Information Center (NEIC) Web site not only provides data, maps, and other information about recent quakes around the globe, it also offers general earthquake information, sections on "Today in Earthquake History" and "Large Earthquakes in 1999/2000," as well as facilities enabling users to search for information about a specific event or to report a quake. The "Products and Services" section offers an earthquake e-mail notification service, several USGS publications on quakes, and *numerous* NEIC maps portraying local, national, and global seismicity.

http://www.seismic.ca.gov/sscpubs.htm

The California Seismic Safety Commission and the American Institute of Architects (AIA) California Council have made the 1991 publication ***Architectural Practice and Earthquake Hazards: The Architect's Role in Earthquake Hazard Mitigation*** available for download from this site. The booklet includes several checklists, guides, and other sample documents to aid seismic design and construction.

http://www.anatolianquake.org

AnatolianQuake.org is a "curated depository of data on the Kocaeli-Golcuk and Duzce-Bolu earthquakes of 1999," maintained by Bogazici University, University of Kansas, University of Michigan, Middle East Technical University, University of Minnesota, Notre Dame University, Purdue University, and University of Texas at Austin. The site is intended as a repository of building data and drawings; bridge data and drawings; ground motion, geophysical, geotechnical, geological, economic, and organizational data; photographs; maps; a preliminary report; FTP downloads and uploads; contacts; and links to additional information.

http://mceer.buffalo.edu/research/taiwaneq9_99/default.asp
http://921.ncree.gov.tw

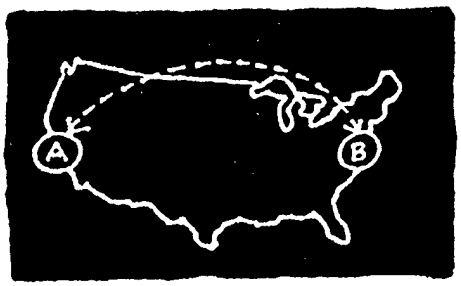
The Multidisciplinary Center for Earthquake Engineering Research (MCEER) recently published ***The Chi-Chi, Taiwan Earthquake of September 21, 1999: Reconnaissance Report*** (MCEER-00-0003), which discusses the physical and economic damage caused by that event. Shortly after the earthquake occurred, MCEER scientists visited the devastated area and developed a program to investigate the disaster in cooperation with the National Center for Research on Earthquake Engineering (NCREE) at the National Taiwan University in Taipei. This report contains observations on the performance of critical facilities, electric power lifelines, highway bridges, and buildings; geotechnical issues; economic impacts; restoration and recovery; and applications of remote sensing. Initial observations and impressions from the Chi-Chi earthquake are reported on the MCEER Web site above, including selected sections from the full-length report, as well as numerous photographs taken during the reconnaissance. Additional information about the earthquake can be obtained through NCREE's Web site: *http://921.ncree.gov.tw/*. To order ***The Chi-Chi, Taiwan Earthquake of September 21, 1999: Reconnaissance Report***, contact *MCEER Publications, State University of New York at Buffalo, 107 Red Jacket Quadrangle, Buffalo, NY 14261; (716) 645-3391, ext. 105; fax: (716) 645-3399; e-mail: mceer@acsu.buffalo.edu; WWW: http://mceer.buffalo.edu*. The price of $30 covers shipping within the U.S. For international shipping charges, contact the MCEER publications office.

http://geopubs.wr.usgs.gov/prof-paper/pp1623

The newly published ***Catalog of Hawaiian Earthquakes 1823-1959*** (USGS Professional Paper 1623), by Fred Klein and Thomas L. Wright, available from this URL, contains information extrapolated from historical accounts concerning more than 17,000 earthquakes in the Hawaiian Islands, mostly on the Island of Hawaii, from 1823 to 1959 (after which, modern instrumentation and techniques allowed comprehensive cataloging).

Correction

In the November 2000 issue of the ***Observer*** we listed an incomplete World Wide Web URL for obtaining the ***Report of the Weather Channel Forum: Policy Issues in Hurricane Preparedness and Response***. The correct address is *http://www.ametsoc.org/ams/atmospolicy*, or, even more specifically, *http://www.ametsoc.org/ams/atmospolicy/forumreports/index.html*.



CONFERENCES AND TRAINING

Below are the most recent conference announcements received by the Natural Hazards Center. A comprehensive list of hazard/disaster meetings is posted on our World Wide Web site: *http://www.colorado.edu/hazards/conf.html*.

Natural Disasters Roundtable: Forum on Urban/Wildland Fire. Host: National Academy of Science/National Research Council. Washington, D.C.: January 26, 2001. The Natural Disasters Roundtable is a new series of discussions organized by the National Research Council to promote communication among the many diverse groups and professions involved in lessening the physical, economic, and social costs of natural disasters (see the ***Observer***, Vol. XXV, No. 2, p. 4). Taking its cue from the incendiary summer of '00 in the U.S., the initial roundtable will address urban/wildland fire. More information is available from *Patricia Jones Kershaw, Natural Disasters Roundtable, National Research Council, 2101 Constitution Avenue, N.W., Washington, DC 20418; (202) 334-1964; fax: (202) 334-1961; e-mail: pkershaw@nas.edu.*

Forum on Risk Management and Assessment of Natural Hazards. Sponsors: National Science and Technology Council, Committee on Natural Disaster Reduction; and Office of the Federal Coordinator for Meteorological Services and Supporting Research. Washington, D.C.: February 5-6, 2001. Participants at this workshop will assess the state of risk assessment and management for natural hazards; discuss national standards for models, data, or values used in risk assessment; and continue the process of identifying national vulnerabilities that can be evaluated and mitigated. The principal objectives are to identify improved tools for risk management that can be used to provide valid predictions of expected losses; assess the consequences of those losses; and evaluate the costs, benefits, and effectiveness of alternative risk mitigation policies and strategies. Additional information is available from *Cynthia Ann Nelson, Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM), Suite 1500, 8455 Colesville Road, Silver Spring, MD 20910; (301) 427-2002; fax: (301) 427-2007; e-mail: Cynthia.Nelson@noaa.gov; WWW: http://www.ofcm.gov/.*

Short Course: Engineering for Extreme Wind—2001. Offered by: Wind Engineering Research Center, Texas Tech University. Lubbock, Texas: February 7-9, 2001. This course is intended for architects, engineers, building officials, and others involved in the design and construction of structures that must stand up to extreme winds. It will include discussion of new wind-load standards, examination of wind-induced damage, and review of design criteria and approaches for dealing with hurricanes and tornadoes. To register or receive additional information, contact *Birgit Rahman, Division of Continuing Education, Texas Tech University, Box 41006, Lubbock, TX 79409-10006; (806) 742-2352, ext. 237; fax: (806) 742-2318; WWW: http://www.wind.ttu.edu.*

Critical Incident Stress Management Suite of Workshops. Offered by: International Critical Incident Stress Foundation (ICISF).

- *New Orleans, Louisiana: February 15-18, 2000*
- *Nashville, Tennessee: March 1-4, 2000*
- *Monterey, California: May 17-20, 2001*
- *Las Vegas, Nevada: June 28-July 1, 2001*
- *Erie, Pennsylvania: August 9-12, 2001*
- *Birmingham, Alabama: September 20-23, 2001*
- *Edmonton, Alberta, Canada: October 4-7, 2001*
- *San Diego, California: November 29-December 2, 2001*

A brochure describing these workshops is available from *ICISF, 10176 Baltimore National Pike, Unit 201, Ellicott City, MD 21042; (410) 750-9600; fax: (410) 750-9601; WWW: http://www.icisf.org.*

Second Annual Conference on Innovations in Catastrophe Management. Host: EQECAT, Inc. Ft. Myers, Florida: February 25-28, 2001. Topics to be addressed include catastrophe model validation, lending and insurance underwriting on the Internet, dynamic financial analysis, GIS and catastrophe models, security trends and implications, New Madrid Zone exposure assessment, integration of models into the underwriting process for growth and profit, earthquakes in Turkey and Taiwan, European storms, and the latest seismic maps of the U.S. For a conference registration form or additional information, contact the *Conference*

Registrar, EQECAT, Inc., 1111 Broadway, 10th Floor, Oakland, CA 94607; (510) 817-3100; fax: (510) 663-1050; e-mail: emb@eqe.com; WWW: http://www.eqe.com/revamp/2ndAnnualConf.htm.

2001 Central United States Earthquake Consortium (CUSEC) Annual Meeting. Memphis, Tennessee: March 12-14, 2000. With the theme of "Finding Solutions Through Partnerships," the 2001 CUSEC conference will focus on improving working relationships among the organizations concerned with earthquake issues in the central U.S. and developing a multi-year regional action plan to address this hazard. For more information, contact *CUSEC, 2630 East Holmes Road, Memphis, TN 38118; (901) 544-3570 or (800) 824-5817; fax: (901) 544-0544; e-mail: cusec@cusec.org; WWW: http://www.cusec.org.*

Floodplain Management Association (FMA) Spring 2001 20th Semiannual Conference. San Diego, California: March 13-16, 2001. Papers and presentations at this FMA 2001 conference will address six areas: floodplain planning and management, water quality, new methods and techniques, public outreach, environmental issues, and new codes and regulations. Additional information is available from *Laura Hromadka, Conference Coordinator, FMA, P.O. Box 2972, Mission Viejo, CA 92692; (949) 766-8112; fax: (949) 459-8364; e-mail: fmalaura@pacbell.net.*

GDIN-2001: Fourth Annual Conference of the Global Disaster Information Network. Host: Emergency Management Australia. Canberra, Australia: March 21-23, 2001. GDIN is an international effort to improve global exchange of information to aid disaster management. Recognizing the importance of receiving the right information, in the right format, in minimal time, GDIN-2001 will promote collaboration among disaster managers and information providers. The meeting will bring together the entire spectrum of people and organizations involved in this important task, from government officials to journalists, researchers, information industry representatives, and local emergency managers. For conference details, contact *Emergency Management Australia, P.O. Box 1020 Dickson, Australian Capital Territory 2602, Australia; tel: +61 2 6266 5219; fax: +61 2 6266 5029; e-mail: gdin@ema.gov.au; WWW: http://www.ema.gov.au/gdin, http://www.gdin-international.org/.*

European Geophysical Society (EGS) XXVI General Assembly. Nice, France: March 25-30, 2001. The 2001 EGS Assembly will include several sessions on natural hazards, including a session (NH8) on tsunamis and a special session (NP15.06) on nonlinearities in natural and human-induced hazards. Further information, including a list of all sessions, is available on the World Wide Web: *http://www.mpae.gwdg.de/EGS/EGS.html* and *http://www.mpae.gwdg.de/EGS/egsga/nice01/nice01.htm.* Interested persons can also contact the *EGS Office, Max-Planck-Straße 13, 37191 Katlenburg-Lindau, Germany; tel: +49-5556-1440; fax: +49-5556-4709; e-mail: egs@copernicus.org; WWW: http://www.copernicus.org/EGS/EGS.html.*

American Geophysical Union (AGU)

- *2001 Spring Meeting. Boston, Massachusetts: May 29-June 2, 2001*
- *2001 Fall Meeting. San Francisco, California: December 10-14, 2001*
- *2002 Spring Meeting. Washington, D.C.: May 28-June 1, 2002*
- *2002 Fall Meeting. San Francisco, California: December 6-10, 2002*

AGU meetings typically include many sessions on natural hazards of all stripes—from hurricanes to earthquakes to floods. Details are available from the *Meetings Department, AGU, 2000 Florida Avenue, N.W., Washington, DC 20009; (800) 966-2481 or (202) 462-6900; fax: (202) 328-0565; e-mail: meetinginfo@agu.org; WWW: http://www.agu.org/meetings.*

Sea-Surface Changes and Coastal Flood Hazards in Europe (Fourth Euresco Conference on Glacial-Interglacial Sea-Level Changes in Four Dimensions). Sponsor: European Science Foundation. St. Andrews, U.K.: March 31-April 5, 2001. This conference will address instrumental, historical, and geological assessment of coastal flooding in Europe, focusing on events triggered by storms and earthquakes. It will also focus on links between scientific research and policies and programs to manage this hazard. Additional information is available from *Rhona Heywood, Conference Organiser, European Science Foundation, European Research Conferences (Euresco), 1 quai Lezay Marnésia, F-67080 Strasbourg, France; tel: +33 388 76 71 39; fax: +33 388 36 69 87; e-mail: rheywood@esf.org; WWW: http://www.esf.org/euresco/01/lc01087a.htm.*

2001 National Hurricane Conference. Sponsors: Florida Shore and Beach Preservation Association and many others. Washington, D.C.: April 9-13, 2001. This multidisciplinary conference is a national forum for education and professional training in hurricane hazard mitigation. It is intended for all individuals and organizations involved in preparing for and responding to hurricanes. Besides speeches by national experts, it will include 15 in-depth training sessions and more than 40 workshops. A conference brochure and additional information are available from the *Florida Shore and Beach Preservation Association, 2952 Wellington Circle, Tallahassee, FL 32308; (850) 906-9224; fax: (850) 906-9228; e-mail: mail@hurricanemeeting.com; WWW: http://www.hurricanemeeting.com.*

Safety Evaluation of Existing Dams. Offered by: U.S. Bureau of Reclamation. Denver, Colorado: April 23-27, 2001. Because the consequences of dam failure can be catastrophic, the need for training in dam evaluation and maintenance, as well as consequence management, is essential. The U.S. Bureau of Reclamation's Technical Service Center in Denver, Colorado, provides several programs to address this hazard (see their Web site below for a summary of the services available). The seminar listed above emphasizes the importance of dam safety and provides information

and instruction in both dam safety surveillance and remedial measures. The program includes visits to local dams to practice inspection techniques. Three concurrent workshops immediately following the seminar will provide additional information on engineering geology; evaluation and response to seepage, uplift, and piping; and emergency management. To register or obtain more information, contact *Marsha Druker or Bill Bouley, Technical Service Center, U.S. Bureau of Reclamation, Denver Federal Center, P.O. Box 250007, Denver, CO 80225-0007; (303) 445-2752; e-mail: wbouley@do.usbr.gov; WWW: http://www.usbr.gov/dsis.*

Florida Governor's Hurricane Conference. Tampa, Florida: May 14-18, 2001. The Florida Governor's Hurricane Conference has emerged as a major venue for exchanging information on hurricane preparedness, warning, response, and mitigation—not only for Floridians, but for national organizations as well. For more information, contact the *Governor's Hurricane Conference, P.O. Box 279, Tarpon Springs, FL 34688-0279; (727) 944-2724 or (800) 544-5678; e-mail: flghc1@gte.net; WWW: http://www.flghc.org.*

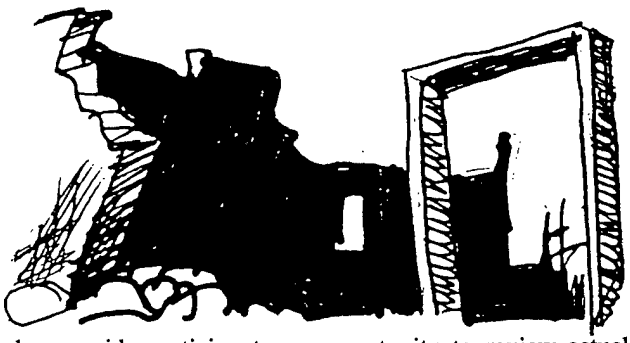
National Flood Conference. Host: Federal Insurance Administration, Federal Emergency Management Agency. Minneapolis, Minnesota: May 22-25, 2001. The National Flood Conference is intended for all persons and organizations involved in implementing the National Flood Insurance Program (NFIP)—from insurers, to lenders, builders, compliance officials, planners, floodplain management officials, and disaster managers. To register or obtain more information about the conference, contact *Catherine King, NFIP Bureau and Statistical Agent, 7700 Hubble Drive, Lanham, MD 20706; fax: (301) 918-1471; WWW: http://www.fema.gov/nfip/2001conf.htm.*

Regional LIDERES 2001 Course on Disaster Management. Hosted by: Pan American Health Organization (PAHO). San José, Costa Rica: June 2001. This program is "directed at top-level professionals with broad experience in disaster situations from a wide variety of organizations and sectors (health ministries, national disaster offices, the Red Cross, financing institutions, U.N. and other cooperating agencies)," and thus intended to educate higher-level officials about the exigencies of disaster management and mitigation. Details and specific dates are available from *PAHO, Emergency Preparedness and Disaster Relief Coordination Program, 525 Twenty-third Street, N.W., Washington, DC 20037-2895; fax: (202) 775-4578; e-mail: curso-lideres@paho.org; WWW: http://165.158.1.110/english/ped/pedhome.htm.*

Landslides: Causes, Impacts and Countermeasures. Sponsors: International Association of Engineering Geology and others. Davos, Switzerland: June 17-21, 2001. This conference will focus on six landslide-related domains: geology, climate, dynamic aspects, anthropogenic aspects, impact assessment and countermeasures, and mining-related problems. A detailed prospectus is available from *http://www.engfnd.org/lav.html.* Interested persons can also contact the *Landslide Conference Secretary, Deutsche Montan Technology, Franz-Fischer-Weg 61, 45307 Essen, Germany; tel: +49-201-172-1886; fax: +49-201-172-1777; e-mail: kuehne@dmt.de.*

The International Emergency Management Society (TIEMS) Eighth Annual Conference. Oslo, Norway: June 19-22, 2001. The 2001 TIEMS conference will focus on "experience management" in emergencies, Web-based and virtual decision support tools, group decision support, computerized training, and evacuation evaluation. TIEMS has issued a call for papers, with abstracts due January 31, 2001. For information on abstract submission, contact *Monica Kjolo, AS Quasar Consultants, P.O. Box 388 Skoyen, N-0212 Oslo, Norway; tel: +47 22 73 08 60; fax: +47 22 73 08 10; e-mail: monica@quasar.no.* For more information about TIEMS and the conference, see *http://www.tiems.org* or e-mail *info@tiems.org.*

Damage Assessment of Structures (DAMAS 2001). Host: Cardiff University. Cardiff, Wales, U.K.: June 25-27, 2001. This is the fourth in a series of biennial international conferences that bring together experts in damage assessment from academia and industry. The conference will cover the many technical aspects of damage assessment and



also provide participants an opportunity to review actual cases. For a conference brochure, contact *Cherrie Summers, DAMAS 2001 Secretariat, CPD Unit, Cardiff School of Engineering, P.O. Box 685, The Parade, Cardiff CF2 3TA, U.K.; tel/fax: +44 29 20874421; e-mail: summersc@cardiff.ac.uk; WWW: http://www.cf.ac.uk/engin/news/confs/damas/.*

2001 Open Meeting of the Human Dimensions of Global Environmental Change Research Community. Hosted by: Interamerican Institute for Global Change Research; International Human Dimensions Programme on Global Environmental Change; Human Dimensions Program, Brazilian Academy of Sciences; and the Socioeconomic Data and Applications Center, Center for International Earth Science Information Network (CIESIN). Rio de Janeiro, Brazil: October 6-8, 2001. The fourth in a series of biennial meetings (see *http://www.iges.or.jp* for information about the earlier conferences), this assembly is open to all researchers examining the causes and consequences of, and responses to, global environmental change. The meeting is intended not only to continue the exchange of information about ongoing research, but also to create and strengthen research networks. It will particularly focus on studies that link natural and social sciences at local, regional, and global

scales. The organizers seek participants from the broadest possible range of disciplines and from developing as well as developed countries. The deadline for submission of abstracts and session proposals is March 29, 2001. See *http://sedac.ciesin.org/openmeeting* for complete information about the meeting and abstract submittal, or contact *CIESIN, Columbia University, 61 Route 9W, P.O. Box 1000, Palisades, NY 10964; (845) 365-8988; fax: (845) 365-8922; e-mail: open.meeting@ciesin.org.*

Tenth International Conference on Soil Dynamics and Earthquake Engineering (SDEE 2001). Sponsors: Drexel University, Earthquake Engineering Research Institute, and others. Philadelphia, Pennsylvania: October 7-10, 2001. SDEE 2001 will expand and enrich current practice in soils earthquake engineering by providing a forum for interdisciplinary discussion of current activities in the fields of geophysics; geology; and earthquake, geotechnical, and structural engineering. More information is available from *Aspasia Zerva, SDEE Conference Secretariat, Department of Civil and Architectural Engineering, Drexel University, 3141 Chestnut Street, Philadelphia, PA 19104; (215) 895-2340; fax: (215) 895-1363; e-mail: sdee2001@drexel.edu; WWW: http://www.drexel.edu/sdee2001.*

International Association of Emergency Managers (IAEM) Annual Conference and Exhibition. Riverside, California: November 3-7, 2001. IAEM is the chief professional organization for emergency managers in North America, and its annual conference is an important venue for learning about the latest issues and advances in the discipline. For details about the meeting, watch the IAEM Web site: *http://www.iaem.com*, or contact *IAEM, 111 Park Place, Falls Church, VA 22046-4513; (703) 538-1795; fax: (703) 241-5603; e-mail: iaem@aol.com.*

Oceans and Coasts at Rio +10: Assessing Progress, Addressing Continuing and New Challenges. Sponsor: United Nations Educational, Scientific, and Cultural Organization (UNESCO). Paris, France: December 3-7, 2001. This international conference will consider the status of oceans and coasts 10 years after the 1992 United Nations Conference on Environment and Development (UNCED). Topics will include the implementation of UNCED conventions, sustainable development, pollution, resource use and conservation, and climate change. For more information, contact *Patricio Bernal, IOC, 1 rue Miollis, 75732 Paris Cedex 15, France; tel: 331-45-683938; fax: 331-685810; e-mail: p.bernal@unesco.org*; or *Biliana Cicin-Sain, University of Delaware, 301 Robinson Hall, Newark, DE 10716; (302) 831-8086; e-mail: bcs@udel.edu.*

Chemical Emergency Preparedness and Prevention Conference. Sponsor: U.S. Environmental Protection Agency. Baltimore, Maryland: December 10-13, 2001. Planning for this conference has just begun; to offer suggestions or obtain information, contact *Katrina Harris, General Physics Corporation, 500 Edgewood Road, Suite 110, Edgewood, MD 21040; (410) 676-8835; fax: (410) 676-8545; e-mail: kharris@genphysics.com.*

International Sociological Association (ISA) XV World Congress of Sociology. Brisbane, Australia: July 7-13, 2002. The International Research Committee on Disasters (a committee of the ISA) is currently soliciting suggestions for sessions and moderators. To contribute or obtain more information, contact *Maureen Fordham, Geography Department, Anglia Polytechnic University, East Road, Cambridge CB1 1PT, U.K.; tel: +44 01223 363271; e-mail: m.h.fordham@anglia.ac.uk.*

Seventh U.S. National Conference on Earthquake Engineering. Sponsor: Earthquake Engineering Research Institute (EERI). Boston, Massachusetts: July 21-25, 2002. The theme of this quadrennial national earthquake conference is "Urban Earthquake Hazard." The meeting will allow researchers and practitioners from all relevant disciplines to share the latest knowledge and techniques for understanding and mitigating the effects of earthquakes on the built and natural environment. For a conference flier and list of technical program topic areas and special sessions, contact *EERI, 499 14th Street, Suite 320, Oakland, CA 94612-1934; (510) 451-0905; fax: (510) 451-5411; e-mail: eeri@eeri.org; WWW: http://www.eeri.org.*

Second International Symposium on Advances in Wind and Structures (AWAS'02). Pusan, Korea: August 21-23, 2002. The primary objective of this symposium is to promote an international exchange of scientific information on engineering problems and emerging technologies in wind and structural engineering. The organizers are currently soliciting papers, and one-page abstracts are due August 31, 2001. For more information, contact the *Conference Secretariat, AWAS'02, Department of Civil Engineering, Advanced Institute of Science and Technology, Taejon 305-701, Korea; tel: +82-42-869-8451/ 3621; fax: +82-42-869-8450; e-mail: technop@chollian.net.*

Fifth International Conference of Local Authorities Confronting Disasters and Emergencies—LACDE 5. Shanghai, China: October 16-18, 2002. The fifth LACDE conference will address management and sustainable development strategies when dealing with municipal disasters; the relation of city disaster management to regional, national, and international efforts; and other topics related to the role of local authorities in emergency management. More information is available from the *LACDE International Secretariat, c/o Union of Local Authorities in Israel, 3 Heftman Street, P.O. Box 20040, Tel Aviv 61200, Israel; tel: +972-3-695-5024; fax: +972-3-691-6821; e-mail: ulais@netvision.net.il; WWW: http://www.ulai.org.il/f_lacde.htm.*

Eleventh International Conference on Wind Engineering. Lubbock, Texas: June 2-5, 2003. The deadline for submitting session proposals for this conference is January 15, 2002 (better get on the stick!). For more information, contact the *Wind Engineering Research Center, Texas Tech University, Box 41023, Lubbock, TX 79409-1023; (806) 742-3476; fax: (806) 742-3446; e-mail: webmaster@wind.ttu.edu; WWW: http://www.icwe.ttu.edu.*

CONTRACTS AND GRANTS

Below are descriptions of recently awarded contracts and grants for the study of hazards and disasters. An inventory of contracts and grants awarded from 1995 to the present (primarily those funded by the National Science Foundation) is available on the Natural Hazards Center's Web site: *http://www.colorado.edu/hazards/grants.html.*

Earthquake Injury Data Collection for 1999 Urban Earthquakes. Funding: National Science Foundation, $75,000, 12 months. Principal Investigators: *Kimberley I. Shoaf and Hope Seligson, Department of Public Health and Community Health Sciences, 36-070A CHS, University of California–Los Angeles, Los Angeles, CA 90024-1301; (310) 794-6646; e-mail: kshoaf@ucla.edu.*

The investigators in this project will use data from the major earthquakes that occurred in 1999 to refine existing casualty models. They will work with Taiwanese researchers to collect available injury and damage data regarding the quake. Data from the Colombia quake, as well as the Greece and Turkey quakes, if available, will be analyzed for information on building damage as well as the relationship between damage and injury.

Learning from Earthquakes. Funding: National Science Foundation, $299,995, 12 months. Principal Investigator: *Susan Tubbesing, Earthquake Engineering Research Institute (EERI), 499 14th Street, Suite 320, Oakland, CA 94612-1920; (510) 451-0905; fax: (510) 451-5411; e-mail: eeri@eeri.org.*

For nearly 30 years, the National Science Foundation has provided support for EERI's Learning from Earthquakes program. That program enables multidisciplinary research teams to carry out field investigations of significant quakes throughout the world and to observe and document seismic effects on the natural and built environments as well as their social, economic, and public policy implications. Recent experiences have raised concerns about the need to improve the coordination of postearthquake research and to make better use of new technologies. EERI will convene an invitational workshop to establish a protocol to improve research community response to earthquakes and to enhance data collection and dissemination. The institute will create a new program to both provide training to team members and support immediate post-earthquake data collection.

Electronic Encyclopedia of Earthquakes. Funding: National Science Foundation, $86,867, 24 months. Principal Investigators: *Thomas L. Henyey, David W. Simpson, Thomas H. Jordan, Robert K. Reitherman, and Jean-Bernard Minster, University of Southern California, Southern California Earthquake Center (SCEC), Department of Earth Sciences, University Park, Los Angeles, CA 90089-0742; (213) 740-3459; fax: (213) 740-0011; e-mail: henyey@earth.usc.edu.*

This project is a collaborative effort among the Southern California Earthquake Center (SCEC), the Consortium of Universities for Research in Earthquake Engineering (CUREE), and the Incorporated Research Institutes in Seismology (IRIS). During the first-year pilot phase, the investigators will create an operational framework and an initial set of entries for the encyclopedia. Users of this resource will be able to access data sets via the Internet and manipulate, visualize, and analyze the data in various ways. Encyclopedia topics will include earth sciences, engineering, physics, and mathematics, with some treatment of the impacts of earthquakes on human systems. The information will also be layered in terms of its complexity or the need for prerequisite knowledge.

Digital Government: Testbed for High-Speed "End-to-End" Communications in Support of Comprehensive Emergency Management. Funding: National Science Foundation, $125,000. Principal Investigators: *Charles W. Bostian and Scott F. Midkiff, Electrical and Computer Engineering, 340 Whittemore, Virginia Polytechnic University, Blacksburg, VA 24061; (540) 231-5096; e-mail: bostian@vt.edu.*

This project will explore the use of rapidly deployable wireless high-speed communications in emergency management. The research will use Local Multipoint Distribution Service radio and evaluate its portability along with its ability to access remote databases and geographic information systems. The investigators will collaborate with the National Response Center, the federal agency responsible for responding to chemical spills, toxic releases, and related environmental problems.

Ground Deformation Due to Fault Rupture and Liquefaction During the 1999 Kocaeli and Duzce, Turkey, Earthquakes. Funding: National Science Foundation, $40,000, 12 months. Principal Investigator: *Jean-Pierre*

Bardet, Civil and Environmental Engineering, School of Engineering, University of Southern California, Los Angeles, CA 90081; (213) 740-0608; fax: (213) 744-1426; e-mail: bardet@usc.edu.

During the two Turkey earthquakes, surface faulting caused substantial damage to structures and lifelines. It was the first time these processes impacted urban and industrial areas to such a broad extent, raising major concerns about current practices in earthquake engineering. The goals of this project are to compile and organize existing data on the surface-faulting and liquefaction-induced ground deformation for these quakes, use aerial photographs taken prior to and following the quakes to produce maps relating to these events, collect additional technical data, and disseminate this information through a new geographic information system server on the Internet.

The Vulnerability of Infrastructure to Volcanic Ash Falls. Funding: Foundation for Research, Science, and Technology; $105,000 (New Zealand); 12 months. Principal Investigator: *Jim Cole, Natural Hazards Research Centre, University of Canterbury, Private Bag 4800, Christchurch, New Zealand; tel: +64-3-364-2755; e-mail: j.cole@geol.canterbury.ac.nz.*

This project is an initial assessment of the impacts of volcanic ash falls on urban infrastructure in New Zealand. That country's Ministry for Emergency Management (MEM) and Earthquake Commission (EQC) have indicated that assessment of the vulnerability of urban infrastructure will be an important step in their comprehensive natural disaster planning. Preliminary results will be presented at an international conference, "Cities on Volcanoes 2," in Auckland in February 2001.

Looking for Fellows, Articles, and Exemplary Practices

ASFPM/FEMA Offer Graduate Fellowship

The Association of State Floodplain Managers (ASFPM) and the Federal Emergency Management Agency (FEMA) have issued an invitation for applications for the $25,000 Floodplain Management Graduate Fellowship for 2001-2002. The award will support a post-baccalaureate student for one academic year to conduct research in the U.S. addressing a floodplain management or flood mitigation issue. Applications are due March 1, 2000. For details, see *http://www.floods.org/flwshp98.htm*, or contact *ASFPM, 2809 Fish Hatchery Road, Suite 204, Madison, WI 53713; (608) 274-0123; fax: (608) 274-0696; e-mail: asfpm@floods.org.*

E-Journal Seeks Articles

The new electronic journal ***American Emergency Management Response*** (***AEMR***) is seeking articles from emergency management professionals, scholars, and members of government at all levels. The journal was created by the Association for National Defense and Emergency Resources and the Department of Political Science at the University of Akron as a public service for individuals, academicians, and decision makers concerned about emergency management. E-mail articles should be sent to *acook@uakron.edu*. For additional information and instructions on submitting paper copies, see the ***AEMR Journal*** Web site: *http://www.uakron.edu/ander.*

FEMA Invites Nominations of Exemplary Practices

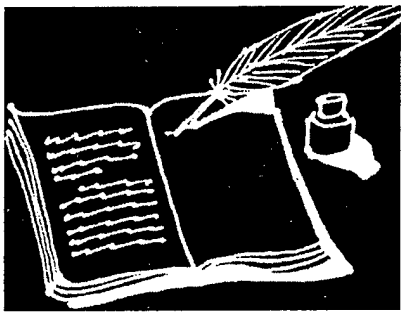
In keeping with its goal of building a strong and effective emergency management system throughout the nation, the Federal Emergency Management Agency (FEMA) continually searches for model programs and creative ways to use resources at the federal, state, and local levels—both in government and in the private and volunteer sectors.

FEMA's ***Compendium of Exemplary Practices in Emergency Management*** pays tribute to such practices and the people who created them. With "Partnerships in Preparedness" as its theme, the ***Compendium*** provides guidelines for forging cooperation and leveraging emergency management talent and resources.

FEMA is currently soliciting suggestions for next year's compendium. A panel of FEMA partners screens nominations using the following criteria:

- The program has implemented/demonstrated results.
- The program is replicable and easy to transfer.
- The program is cost effective.
- The program is innovative.
- The program has a broad scope of impact.

Each nomination should include names of knowledgeable individuals who can provide further information about the program. Nominations and suggestions are welcome at any time. For complete details or a nomination form, contact ***Compendium of Exemplary Practices in Emergency Management, PT-SL Room 614, FEMA, 500 C Street, S.W., Washington, DC 20472***; WWW: *http://www.fema.gov/pte/exempract.htm.*



RECENT PUBLICATIONS

Below are summaries of some of the recent, more useful publications on hazards and disasters received by the Natural Hazards Center. A complete bibliography of publications received from 1995 through 2000 is posted on our World Wide Web site: *http://www.colorado.edu/hazards/bib/bib.html.*

All Hazards

Confronting Catastrophe: New Perspectives on Natural Disaster. *David Alexander. 2000. 304 pp. $25.00, paper; $45.00, hard-bound. To purchase a copy, contact the Order Department, Oxford University Press, 2001 Evans Road, Cary, NC 27513; (800) 451-7556; fax: (919) 677-1303; WWW: http://www.oup-us.org.*

In ***Confronting Catastrophe***, Alexander argues that disasters have not been "considered sufficiently in the light of present-day worldwide trends and tendencies" and that some analysis of history and human cultures is also necessary to help explain why deaths and losses are increasing rapidly. He urges a better marriage between the physical and social sciences, as well as recognition of the increasing divergence between the developed and developing world. Alexander advocates concrete, direct analysis and discussion while avoiding abstract, academic debate. Using this approach, he presents his views on the study of disaster; the roles of society and culture in disasters; past, present, and future disasters; technology, economics, and disasters; and moral and philosophical issues.

Journal of the American Society of Professional Emergency Planners. 2000. 166 pp. $19.00. Copies can be purchased from Robert Goldhammer, American Society of Professional Emergency Planners (ASPEP), c/o IAEM, 111 Park Place, Falls Church, VA 22046-4513.

ASPEP is an organization of certified emergency managers dedicated to the advancement of knowledge about disasters and to the improvement of emergency management. Their annual journal shares research, practice, and opinion from all disciplines involved in reducing disasters' toll. The latest issue contains papers on planning response to terrorist acts, the Y2K challenge, response to Hurricane Floyd, managing stress in emergency management, a special needs registration program, the use of interagency agreements, model emergency action plans, terrorism and school violence, emergency planning generally, the historical origins of emergency management in the U.S., and virtual emergency operations centers.

Cross-Cultural Risk Perception: A Survey of Empirical Studies. *Ortwin Renn and Bernd Rohrmann, Editors. 2000. 240 pp. $99.00. Order from Kluwer Academic Publishers, Order Department, P.O. Box 358, Accord Station, Hingham, MA 02018-0358; (781) 871-6600; fax: (781) 681-9045; e-mail: kluwer@wkap.com; WWW: http://www.wkap.nl.*

Cross-Cultural Risk Perception offers theoretical insights and practical information from several risk perception studies that can aid policy makers, risk experts, and other interested parties. The book begins with an extended introduction summarizing the state of the art in risk perception research and core issues of cross-cultural comparisons. The main body consists of four cross-cultural studies on public attitudes toward risk in different countries, including the United States, Australia, New Zealand, France, Germany, Sweden, Bulgaria, Romania, Japan, and China. The last chapter critically discusses the main findings from these studies and proposes a framework for understanding and investigating cross-cultural risk perception. Finally, the editors outline implications for communication, regulation, and risk management.

Disaster Risk Management. 2000. 115 pp. $85.00 (Australian).

Disaster Risk Management Guide: A How-to Manual for Local Government. 2000. 26 pp. $45.00 (Australian).

Set containing both volumes: $130.00 (Australian).

To purchase, contact the Disaster Policy and Research Unit, Counter Disaster and Rescue Services, Queensland Government, GPO Box 1425, Brisbane, QLD 4001, Australia; tel: 3247 8481; fax: 3247 8480; e-mail: jstephens@emergency.qld.gov.au.

This publication focuses on the application of risk management techniques to disaster management. It explains the science of risk reduction and its underlying concepts, particularly focusing on the Australian/New Zealand Standard for Risk Management. It contains an introduction to risk management; an overview of the elements to be considered in the risk management process; and guidelines for establishing a framework, developing evaluation criteria, identifying risks, analyzing vulnerability, estimating and evaluating risks, and mitigating the threats. Appendices provide pointers for using the right types of data and risk information, sample documentation and suggestions for its use, a sample study, and recommended Web sites.

The ***How-to Manual***, a companion to the first publication, begins by noting that the Australian federal government has spent millions of dollars in responding to and assisting recovery from natural disasters, yet only a small amount on planning for and mitigating impacts. The Commonwealth of Australia recently linked future disaster assistance to action taken by other levels of government. Consequently, state and local governments that have not implemented mitigation actions may lose Commonwealth funding for recovery from disasters. This manual presents a formal, systematic approach to conducting an assessment of risks and then developing and implementing programs to reduce those risks. It describes the main elements of the risk management process, initial tasks, methods for identifying risks, risk analysis

and evaluation, mitigation, information distribution, participation by stakeholders, and program review and evaluation.

Operational Guide: Rehabilitation and Social Sustainability. *2000. Free. To request a copy, contact the U.N. Office for Project Services (UNOPS), United Nations, Palais des Nations, CH-1211 Geneva 10, Switzerland; fax: (41-22) 917-8060; e-mail: PeriP@unops.org.*

This guide was created for project managers carrying out rehabilitation and reconstruction in countries recovering from wars or natural disasters. The manual draws on experiences during the past decade in more than 20 countries and that involve a variety of specialized agencies both within and outside of the United Nations.

Biblio-des No. 29: Towards a Culture of Prevention—Disaster Education. *2000. Free. For availability, contact the Regional Disaster Information Center (CRID), Apartado Postal 3745-1000, San José, Costa Rica; fax: (506) 231-5973; e-mail: crid@crid.or.cr. The complete bibliography can also be found on-line: http://www.crid.or.cr/crid/ENG/SERVICES/biblio29.htm.*

This issue of ***Biblio-des*** contains a selected bibliography focusing on the Hemispheric Education Plan for Disaster Reduction and the U.N.'s International Strategy for Disaster Reduction campaign, "Education, Youth, and Disasters." Its three sections contain citations in both Spanish and English on curricula, citizen education, and educational facilities.

Australian Emergency Manual: Safe and Healthy Mass Gatherings. *1999. $27.15 (Australian). To obtain a copy, contact the Disaster Awareness Program, Emergency Management Australia, Department of Defence, P.O. Box 1020, Dickson ACT 2602, Australia; tel: +61 (0)2 6266 5219; fax: +61 (0)2 6266 5029; e-mail: jabrahams.@ema.gov.au.*

This manual provides guidance on conducting incident-free mass gatherings. Prepared primarily for emergency managers and health personnel, it covers pre-event planning, safety issues, spectator management and control, public health, medical care, psychological issues, special considerations for high-risk events, and other aspects of managing large events. Annexes provide information on the characteristics of crowds as well as considerations for planners, promoters, and vendors.

Going International: Kurskalender/Health Courses 2000. *2000. 194 pp. 150.00 Austrian Schillings. To obtain a copy, contact Gerhard Polak, Bureau for International Services of the Vienna Medical Association, Weihburggasse 10-12, A-1010 Vienna, Austria; tel: +43/1/51501-410.*

Since 1989, the Bureau for International Services of the Viennese Medical Association has published a yearly directory of health courses. This issue, in both German and English, lists more than 1,000 courses, including many related to emergency and disaster medicine, from 200 European institutions. The first chapter lists all training and courses that an emergency physician in Germany, Switzerland, and Austria must complete. The second chapter is devoted to humanitarian aid, catastrophe management, and training for international emergency missions. The third lists courses addressing development cooperation among nations. Other chapters cite courses on tropical medicine and international public health and list international meetings and conferences. The appendices list recommended books, journals, and Internet sites.

Safety and Disaster Management in Schools and Colleges: A Training Manual. *David G. Kibble. 1998. 128 pp. $34.95. To buy a copy, contact Taylor & Francis/Routledge, 7625 Empire Drive, Florence, KY 41042; (800) 634-7064; fax: (800) 248-4724; WWW: http://www.routledge-ny.com.*

This manual provides tips for undertaking disaster and safety planning in educational institutions. According to its author, David Kibble, who is deputy headmaster of a school in the U.K., this manual "can be used by a member of a senior disaster management team who has been given the responsbility of drawing up a school's disaster plan or by a colleague who has been asked to provide . . . a plan detailing how a college might be used as an emergency [shelter]." Kibble discusses the concept of safety and disaster planning, the special needs of educational institutions, coping with students with medical needs, preventing and responding to violence and aggression, fire and bomb safety precautions, and emergency shelter planning.

IAEM Bulletin *Vol. 17, No. 10 (October 2000). For availability, contact the IAEM, 111 Park Place, Falls Church, VA 22046-4513; (703) 538-1795; fax: (703) 241-5603; e-mail: iaem@aol.com; WWW: http://www.iaem.com.*

This issue of the ***IAEM Bulletin*** is devoted to "The Future: Expanding the Boundaries of Emergency Management." Lead contributor William Waugh suggests that we are seeing the future of this field now and that the future is characterized by rapidly changing information technology, increasing scientific and technical information on hazards, a growing demand for trained and experienced emergency managers, and the development of a global community of emergency management authorities. Numerous other professionals share their views on the future of their field, discussing steps necessary for sustaining a strong emergency management community, the evolution of emergency response careers, emerging issues, the establishment of a national standard of care for emergency management programs in the U.S., the increasing complexity of coping with emergencies, the past 50 years and what they mean for the future, choosing an emergency management career, and military assistance to civil authorities.

El Niño and Climate Change

An Introduction to the Economics of Climate Change Policy. *John P. Weyant. 2000. 55 pp. Free. The complete report is available at the Pew Center on Global Climate Change Web site: http://www.pewclimate.org/projects/econ_introduction.cfm. For further information, contact the Pew Center on Global Climate Change, 2101 Wilson Boulevard, Suite 550, Arlington, VA 22201; (703) 516-4146.*

Some analysts say measures to address global climate change policy will have dire effects on economies, while others foresee net benefits. This report identifies five variables that explain most differences in the results of economic modeling of climate policy. Two of the key variables involve how the economy adjusts to energy price changes that may cause producers to develop new technologies or substitute different inputs when providing goods and services. Price changes may also cause consumers to alter their buying patterns. A third variable involves emission trends or the expected path of emissions in the absence of any new climate policies. The fourth suggests that more flexibility in environmental public policy may lessen the economic impacts of emissions reductions. The final factor considers whether the benefits of reducing certain emissions are included in cost estimates.

Economic and Social Effects of El Niño in Ecuador, 1997-1998. *Rob Vos, Margarita Velasco, and Edgar de Labastida. 1999. 38 pp. Free. To request a copy, contact the Poverty and Inequality Advisory Unit, Mail Stop E-0421, Inter-American Development Bank, 1300 New York Avenue, N.W., Washington, DC 20577; fax: (202) 623-3299, e-mail: povunit@iadb.org. The complete document is also on-line: http://www.iadb.org/sds/pov.*

Natural disasters caused by El Niño and other phenomena often hit hardest on the poor. Yet, it is sometimes difficult to separate the effects on living conditions resulting from inclement weather from general inadequacies in infrastructure and poor economic development. This study proposes methods for identifying different types of risks associated with natural disasters and designating degrees

Once Burned, Twice Shy
Learning from El Niño

On October 27, 2000, the United Nations released a major new international study entitled ***Reducing the Impact of Environmental Emergencies Through Early Warning and Preparedness—The Case of El Niño-Southern Oscillation (ENSO)***, declaring that thousands of human casualties and tens of billions of dollars in economic damage will continue to befall the world's developing countries every two to seven years until major investments are made to improve forecasting and preparedness for El Niño.

The creation of regional organizations to prepare collective responses to El Niño is one of the key recommendations of this study, which was developed by teams of researchers working in 16 countries in Latin America, Asia, and Africa. The 19-month investigation was undertaken by four collaborating United Nations organizations—the U.N. Environment Program, the U.N. University, the World Meteorological Organization (WMO), and the International Strategy for Disaster Reduction (ISDR)—together with the U.S.-based National Center for Atmospheric Research (NCAR). It examined societal impacts of the 1997-98 El Niño in the 16 countries in order to identify "what worked and what didn't with regard to societal responses to the forecasts and impacts of the 1997-98 El Niño event."

The study's findings highlight the need to undertake systematic long-term risk reduction activities, the need to improve understanding of climate-related vulnerability through education and training, and the need to improve not only technical forecasting capabilities, but also society's understanding of and ability to respond to forecasts. Consequently, the U.N. agencies involved in the study are partnering with NCAR to develop a comprehensive program to "educate educators" in developing countries. The program will address science, policy, and ethics related to climate change, variability, and extremes. U.N. University, in partnership with NCAR and the WMO, is currently seeking donor support to fully develop such a program.

A 30-page executive summary of the study—***Lessons from the 1997-98 El Niño: Once Burned, Twice Shy?***—including numerous findings and recommendations, is available from the NCAR Web site: *http://www.esig.ucar.edu/un/ or http://www.esig.ucar.edu/un/enFinal.pdf*. Copies are also available from the *Public Affairs Section, United Nations University, 53-70, Jingumae 5-chome, Shibuya-ku, Tokyo 150-8925, Japan; tel: +81-3-3499-2811; fax: +81-3-3499-2828; e-mail: mbox@hq.unu.edu; WWW: http://www.unu.edu.*

of vulnerability to such risks by geographical areas and population groups. It finds that most economic costs in Ecuador relate to losses of agricultural production, damage to infrastructure, and increased health risks. It further suggests that most agricultural income losses are borne by small farmers who produce rice, corn, coffee, and cocoa, and, to a lesser extent, by workers in the sugar cane and banana industries. The overall impact on the already high poverty rate could be as much as 10%. Conversely, others benefited from El Niño, such as wealthy shrimp producers, who saw productivity increase by over 25%, and banana exporters, who compensated for production losses through higher export quotas and prices.

The Impact of El Niño and La Niña on Southeast Asia: 21st-23rd February 2000, Hanoi, Vietnam Workshop Report. *2000. 102 pp. Free. The complete text of the report is available from the Indochina Global Change Network Web site: http://www.cru.uea.ac.uk/tiempo/annex/igcn. For more information, contact the University of East Anglia, Climate Research Unit, Norwich NR4 7TJ, U.K.; tel: 01603 556161; fax: 01603 507784; e-mail: cru@uea.ac.uk; WWW: http://www.cru.uea.ac.uk.*

Both El Niño and La Niña weather events severely impact the Indochina region (Cambodia, Laos, and Vietnam), affecting temperatures, rainfall, the frequency of tropical storms, and other variables. The Indochina nations have limited ability to protect their people, natural ecosystems, and national economies against these forces. Historic means of coping with natural hazards, developed over centuries, are no longer effective. The Indochina Global Change Network was established to strengthen the ability of these nations to respond to the threats posed by global change and natural hazards. The network organized a workshop to assist the scientific communities of these nations in strengthening their ability to respond. In general, participants concluded the region needs to have better access to technical and financial resources, to develop a scientific and policy-making structure, to open communication among government agencies at all levels and to other stakeholders, to promote awareness, and to strengthen response. Specific recommendations outline strategies for reaching these goals, including a formal and urgent request to the World Meteorological Organization for regular El Niño advisory reports.

Hurricanes

Inside the Hurricane: Face to Face with Nature's Deadliest Storms. *Pete Davies. 2000. 272 pp. $25.00. Copies can be ordered from Von Holtzbrinck Publishing Services, 16365 James Madison Highway, Gordonsville, VA 22942; (888) 330-8477; fax: (800) 672-2054; WWW: http://hholt.com.*

In ***Inside the Hurricane***, Davies explores the power and destructiveness of these great storms. He recounts his ride along

with researchers who flew into the eye of Hurricane Bret, then describes the science and history of hurricanes, the history of aerial reconnaissance, a program called Project Stormfury that attempted to reduce the strength of these storms, hurricane formation off the coast of Africa, storm modeling and prediction, the American response to Hurricane Floyd, and Hurricane Mitch and its impacts on Honduras.

Floods

Risk Analysis and Uncertainty in Flood Damage Reduction Studies. *Committee on Risk-Based Analysis for Flood Damage Reduction, Water Science and Technology Board, National Research Council. 2000. 216 pp. $42.00, standard purchase; $32.00, Web site purchase. The complete volume can also be viewed on-line for free: http://books.nap.edu/catalog/9971.html. To purchase a printed copy, contact the National Academy Press, 2101 Constitution Avenue, N.W., Lockbox 285, Washington, DC 20055; (888) 624-8373 or (202) 334-3313; fax: (202) 334-2451; WWW: http://www.nap.edu.*

In 1996, Congress charged the National Academy of Sciences to study the U.S. Army Corps of Engineers' use of risk-based analysis to evaluate its impact on Corps projects and to examine how risk-based analysis relates to current policy and procedures used by the Corps. The committee concluded that recognition of engineering and economic uncertainties in flood damage reduction studies leads to projects that are better tailored to local conditions and available data than earlier methods used by the Corps. Indeed, the committee commends the Corps for embracing contemporary, but complicated, techniques and states that "there should be no turning back from this accomplishment." The report describes the Corps and U.S. flood damage reduction policies and programs, issues related to decision making and communication, risk analysis concepts and terms, risk analysis techniques, case studies used in the committee's appraisal, evaluation and proposed improvements, levee certification, and conclusions and recommendations.

Floods. Dennis J. Parker, Editor. 2000. 808 pp. (two-volume set). $325.00. To purchase a copy, contact Routledge Customer Service, 7625 Empire Drive, Florence, KY 41042; (800) 634-7064; fax: (800) 248-4724; e-mail: cserve@routledge-ny.com; WWW: http://www.routledge-ny.com.

Floods provides a collection of new essays by flood experts from around the world on research, theory, and experience. It includes numerous figures and tables that present useful data such as "Deaths from floods, 1987-96, by continent"; categories of flood loss and flood types; major African floodplains; examples of nonconventional and radical approaches to reducing flood hazards; and 10 leading causes of morbidity in the Philippines. Following a detailed introduction to floods and floodplain management, these volumes present a comprehensive examination of the global flood problem. The first section looks at flooding as a human problem, analyzing the fundamental causes of human vulnerability to floods, such as economic hardship and ineffective government. The second section examines the measurement and evaluation of the impacts of floods, including economic, health, and ecological concerns. The next describes strategies for addressing flood hazards and disasters, such as floodproofing, floodplain management, and the specific example of the Bangladesh Flood Action Plan. The fourth section evaluates the effectiveness of flood preparedness, warning, and insurance. The following section presents discussions of exposure and vulnerability reduction through regulation and other social processes. Several authors then examine the physical basis of flooding, including human impacts as well as global climate change, sea level rise, and dam failure. The seventh section presents methods for improving flood prediction in various regions, including cold climates and regions prone to tsunamis. The final section provides lessons, directions, and future challenges for those working to reduce the human suffering caused by floods, addressing such issues as flood risk reduction in developing countries, lessons from the International Decade for Natural Disaster Reduction, and implications for sustainable development.

Flood Mitigation Planning Packet. *2000. $12.00, plus shipping. Packet includes:*

- ***Flood Mitigation Planning: The First Steps.*** *2000. VHS and brochure.*
- ***Using Multi-Objective Management to Reduce Flood Losses in Your Watershed: A Citizen's Guidebook.*** *French Wetmore. 1996.*
- ***The Natural Hazards Informer.*** *Issue 1. "Flood Mitigation Planning: The CRS Approach." French Wetmore and Gil Jamieson. 1999. 16 pp.*
- *List of additional sources of information about flood mitigation.*

National Directory of Floodplain Managers: 2000 Edition. *$25.00.*

To order either item and to determine shipping charges, contact the Association of State Floodplain Managers (ASFPM), 2809 Fish Hatchery Road, Suite 204, Madison, WI 53713; (608) 274-0123; fax: (608) 274-0696; e-mail: asfpm@floods.org; WWW: http://www.floods.org.

The ***Flood Mitigation Planning Packet***, created with financial support from the Public Entity Risk Institute, is designed to assist local governments in developing policies and procedures to avoid future flood problems. The video contains two 15-minute segments. The first, for general audiences, describes reasons for flood mitigation planning; the second, for committee members and decision makers, presents steps for creating and implementing a flood mitigation plan. The ***Citizen's Guidebook*** explains multi-objective planning and management of flood risks and provides pointers to help a community select suitable flood loss reduction measures. ***The Natural Hazards Informer***, published by the Natural Hazards Center, outlines the steps for undertaking mitigation planning—a systematic, objective review of the flood problem and what can be done about it. (This publication can be found in its entirety on the Hazards Center's Web site: *http://www.colorado.edu/hazards/informer.*)

The ***National Directory of Floodplain Managers*** contains the names and addresses of members of the ASFPM, including professionals involved in floodplain management; flood hazard mitigation; the National Flood Insurance Program; and flood preparedness, warning, and recovery. The directory, however, is more than just an address book. It also includes a description of the fundamental policy changes advocated by the association at local, state, and federal levels in 2000. Other sections describe activities undertaken by the organization this year, such as the certified floodplain manager program and the floodplain management graduate fellowship (see p. 22 of this ***Observer***), as well as policy committee activities dealing with such issues as flooding in arid and coastal regions, flood insurance, flood mitigation, floodproofing and retrofitting, mapping, and other concerns. The directory also describes specific flood-related services offered by federal agencies along with who to contact, followed by descriptions of other organizations that deal with floods and information on how to contact them.

Audit of FEMA's Cost Estimate for Implementing the Flood Map Modernization Plan. *H-09-00. 2000. 44 pp. Free. To request a copy of this report, contact the Office of the Inspector General, Federal Emergency Management Agency, Audit Division, Suite 506, 500 C Street, S.W., Washington, DC 20472; (202) 646-4166; fax: (202) 646-3901.*

This report presents the results of FEMA's Office of Inspector General (IG) audit of the $750 million cost estimate for the agency's Flood Map Modernization Program, a seven-year plan for

updating its flood-hazard mapping program. The audit examined three issues: whether the estimate was based on reasonable mapping requirements, whether it included reasonable assumptions and accurate estimates and calculations, and whether it incorporated lower cost alternatives and cost-saving technologies where feasible. The IG concluded that FEMA's methodology was sound, requirements were reasonable, and no major cost elements were overlooked. The IG does recommend, however, that FEMA improve the accuracy of its cost estimate by verifying that data used in the estimate are accurate and that planned mapping initiatives are cost effective. The IG also recommends that FEMA maintain historical cost data on flood studies and other mapping-related costs and refine its estimates of the impact of technological advances on mapping costs. FEMA's responses to the report are presented in the appendix.

Journal of Floodplain Management. *Subscriptions are $45.00/year, plus $5.00 shipping in the U.S. and $20.00 shipping overseas. To subscribe, contact the Floodplain Management Association (FMA), P.O. Box 2972, Mission Viejo, CA 92692-0972; (949) 766-8112; fax: (949) 459-8364; e-mail: fmalaura@pacbell.net.*

This new peer-reviewed quarterly journal publishes articles on applied research, case studies, reviews, and recent advances in floodplain and watershed management. It is intended to aid practicing floodplain managers and covers everything from geographic information system applications in floodplain management to legislative issues, disaster preparedness, and project funding. The editors are currently soliciting articles; interested authors should contact FMA at the address above.

Landslides

Landslides of the World. *2000. 413 pp. 16,000 Japanese Yen. To purchase a copy, contact Kyoto University Press, Kyodai-Kaikan, 15-9 Yoshida Kawara-cho, Sakyo-ku, Kyoto 606-8305, Japan; fax: +81-75-761-6190; e-mail: sales@kyoto-up.gr.jp.*

Landslides cross major political, social, and economic boundaries worldwide, causing untold numbers of deaths, injuries, and economic losses. In many countries, losses due to landslides and other slope stability problems are increasing as residential and industrial developments expand into unstable hillside areas. In 1987, the Japan Landslide Society began publishing the annual ***Landslide News*** to enable scientists and engineers to present case histories, research studies, and papers on the management of landslide and slope stability problems. ***Landslides of the World*** contains 84 selected papers from that publication and includes 16 pages of color photographs. The introduction outlines types of landslides and their mechanisms, including factors that influence the extent of a landslide disaster. Chapters address catastrophic landslides, prediction and warning, hazard identification, landslides and regional and urban development, earthquake-induced slides, rain-induced slides, debris and pyroclastic flows, reactivated and residual landslides, and landslide dams and submarine slides. For a free subscription to ***Landslide News***, contact *Hiroshi Fukuoka, Secretary General of* ***Landslide News****, Disaster Prevention Research Institute, Kyoto University, Uji, Kyoto 611-0011, Japan, fax: +81-774-384300, e-mail: L-News@landslide.dpri.kyoto-u.ac.jp; http://landslide.dpri.kyoto-u.ac.jp/e-L-news.htm.* The editors are also seeking contributors, reports, news, and names of landslide professionals to include in a list they are compiling of active landslide researchers, engineers, and administrators throughout the world.

Usoi Landslide Dam and Lake Sarez: An Assessment of Hazard and Risk in the Pamir Mountains, Tajikistan. *Donald Alford and Robert Schuster, Editors. United Nations Publication Sales No. E.00.III.M.1. 2000. 123 pp. $30.00. Copies can be obtained from United Nations Publications, 1211, Geneva 10, Switzerland; tel: (41 22) 917 2601; fax: (41 22) 917 0027; e-mail: unpubl.unog.ch.*

Lake Sarez in the Pamir Mountains of Tajikistan was created in 1911 when a massive earthquake-induced landslide blocked the Murgab River Valley. Because the Usoi dam (as it came to be called) is not an engineered structure and because a very large volume of water is impounded behind the dam, the stability of the dam and the possible consequences of its failure have been questioned. This report presents the findings of an international reconnaissance mission that studied Lake Sarez in June 1999. The investigation, organized by the United Nations International Decade for Natural Disaster Reduction (IDNDR) Secretariat, included a combined group of Tajik and international scientists who studied the dam and lake as well as the geology, ecology, human geography, and other elements of the surrounding environment. After developing flood scenarios, the team concluded that the dam and lake presented an archetypal low-probability/high-consequence event; the probability of a massive outburst flood from Lake Sarez is low in the near-term, but the consequences of such a flood would be devastating. The complete analysis and resulting recommendations, including those for establishing a monitoring and warning system, are included.

Electronic Fare

Local Government Capability Assessment for Readiness (CAR). *2000. CD. $795.00. Copies can be ordered from ERI International, 4537 Foxhall Drive, N.E., Olympia, WA 98516; (360) 491-7785; fax: (360) 493-0949; e-mail: info@eri-intl.com; WWW: http://www.eri-intl.com. Demo CD and information packet available upon request.*

This CD contains a computer program that assesses the operational capabilities of local governments to mitigate, prepare for, respond to, and recover from emergencies and disasters. It assists users in establishing priorities and analyzing the effectiveness of emergency management programs. The program focuses on the Federal Emergency Management Agency's CAR program, which covers: laws and authorities, hazard identification and risk assessment, hazard management, resources management, planning, control and coordination, communications and warnings, operations and procedures, logistics and facilities, training, exercises, public education and information, and finance and administration. Other professional standards, such as the NFPA 1600, are also incorporated. The program assists users in evaluating current states of readiness, developing strategic plans, and creating long-term work plans to improve program effectiveness.

Hazards, Disasters, and Survival. *VHS. 2000. 90 minutes. For information on how to obtain a copy, contact Emergency Management Australia, P.O. Box 1020 Main Road, Dickson ACT 2602, Australia; tel: 02 6266 5402; fax: 02 6266 5029; e-mail: ema@ema.gov.au; WWW: http://www.ema.gov.au.*

This video contains the six 15-minute episodes of the "Hazards, Disasters, and Survival" television series, produced by the Australian Broadcasting Corporation with assistance from Emergency Management Australia and each state and territory. Each segment features interviews with emergency managers and survivors of natural disasters and provides practical advice on how to prepare for these events. Hazards include severe storms, bush fires, floods, tropical cyclones, earthquakes and landslides, and heatwaves. Lesson plans to support the use of the videos in classrooms have been developed and can be downloaded from the EMA Web site.

THE HAZARDS CENTER

The NATURAL HAZARDS RESEARCH AND APPLICATIONS INFORMATION CENTER was founded to strengthen communication among researchers and the individuals and organizations concerned with mitigating natural disasters. The center is funded by the National Science Foundation, Federal Emergency Management Agency, National Oceanic and Atmospheric Administration, U.S. Geological Survey, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Department of Transportation, U.S. Bureau of Reclamation, National Aeronautics and Space Administration, the Institute for Business and Home Safety, and the Public Entity Risk Institute. Please send information of potential interest to the readers of this newsletter to the address below. The deadline for the next ***Observer*** is *January 22, 2000.*

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Copies of the ***Observer*** and the Hazards Center's e-mail newsletter, ***Disaster Research***, are also available from the Natural Hazards Center's World Wide Web site:

http://www.colorado.edu/hazards

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